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The Grammar of Money

*An Analytical Account of Money as a Discursive Institution
in Light of the Practice of Complementary Currencies*

Leander Bindewald, MSc. (Diplombiologe), M.A.

Thesis

submitted for the degree of
Doctor of Philosophy

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and
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Abstract

Since the global financial crisis in 2008, complementary currencies - from local initiatives like the Brixton Pound to timebanks, business-to-business currencies and, of course, Bitcoin - have received unprecedented attention by academics, policy makers, the media and the general public. However, at close theoretic inspection money itself remains as elusive a phenomenon as water must be to fish. Economic and business disciplines commonly only describe the use and functionality of money rather than its nature. Sociology and philosophy have a more fundamental set of approaches, but remain largely unintegrated in financial policy and common perception. At the same time, new forms of currency challenge predominant definitions of money and their implementation in the law and financial regulation. Unless our understanding of money and currencies is questioned and extended to consistently reflect theory and practice, its current misalignment threatens to impede much needed reform and innovation of the financial systems towards equity, democratic participation and sustainability. After reviewing current monetary theories and their epistemological underpinning, this thesis proposes a new theoretic framework of money as a 'discursive institution' that can be applied coherently to all monetary phenomena, conventional and unconventional. It also allows for the empirical analysis of currencies with the methodologies of neo-institutionalism, practice theory and critical discourse analysis. This will here be demonstrated in a transdisciplinary triangulation concerning three sets of data from the diverse field of complementary currencies, the publications of the Bank of England and monetary laws from the United States. The findings do not only demonstrate the heuristic value of the theory of discursive institutionalism in regard to money and complementary currencies, but highlight how regulatory and legal definitions even of conventional money lack the coherence and clarity required to appropriately explicate monetary innovation. Accordingly, this study concludes with recommendations for monetary theory, policy and research that can address the current inconsistencies.

Declaration

I declare that the research in this thesis is my own work. It has not been published or submitted for another degree elsewhere.

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1 Introduction - The only constant is change

When demonstrators broke through police lines and smashed the windows of the RBS, [...] it appeared that the revolution [...] might materialise. Once they had broken into the bank, however, the protesters did not quite know what to do.

*Patrick Barkham (The Guardian):
G20 Protests, April 2009*

1.1 Why money matters

As a German passport holder living abroad, I am regularly confronted with stereotypes of ‘the diligent and industrious Germans’. It is impossible to prove or challenge these stereotypes from a first person perspective. However, when looking at economics with a disciplinary distance, other more tangible factors come to light to explain concrete phenomena like the highly specialised and widely distributed German SME sector. Yet such heterodox views are seldom mentioned in any discussion about macro-phenomena like the post-WWII economic success of Germany. To give but one example related to the topic of this research, the banking system in Germany is fundamentally different from many countries, particularly when compared to the UK. There are more than just the handful of big household names in international banking institutions operating on the high streets in Germany. Of course, there are big corporate Banks in the German banking sector, one iconically named ‘Deutsche Bank’, however they are complemented by a profuse sector of fully licensed local, cooperative and public banking institutions, that cover the bigger share of consumer services and SME lending in the country (Prieg and Greenham, 2012, p. 3). These local banks cannot move services or profits out of their localities, but are tied, for better or worse, to the local economy in their immediate surroundings. Therefore they have been vital for the financing of start-ups and SMEs throughout the

country during the recent decades of economic uplift. Even after the credit crunch following the financial crisis in 2008, they continued to provide productive loans to the 'real economy' whereas in other countries lending to small businesses came all but to a halt (Greenham and Prieg, 2015, chap. 4).

This example from the world of banking is just one illustration of how institutional elements of our financial system can have a more profound influence on the fabric of our economies and societies than is often recognised or acknowledged. That the arena of finance as a whole has a strong grip on our societies and democracies became apparent in the aftermath of the global financial crisis and it continues to make headlines with the continuing sovereign debt crises and quantitative easing programs in the UK, the USA and Europe. In fact, even before this recent crisis, the World Bank had identified 96 banking and 176 financial crises between the years 1971, the beginning of our current monetary regime, and 1996 alone (Caprio and Klingebiel, 1996). This number indicates that it could not simply be bad management, greedy individuals or inappropriate regulation that ails our financial systems, but that the issue is "systemic" (Lietaer *et al.*, 2012).

However, that systemic issue and the topic of this thesis is not primarily to do with banking, finance, or what is commonly called the 'financial system' as a whole. Instead it is the most fundamental element common to all these: money. And, in contrast to how money is often discussed, it is not about how much or how little of it is available or what any individual or government ought to do with it. Instead it is the nature of money that is posed as the central issue here. As much as it might seem that financial or banking crises have nothing to do with the kind of money that is used to measure their effects, but rather depend on political or behavioural decisions made by the individuals and institutions that use it, it will be argued here that the two are intrinsically linked. Money is not a neutral given, but exists because of the way people think about, talk about, and use it.

With this perspective, the nature of money does not only influence the instability of our financial system, but limits our capacity to achieve sustainability in all major societal spheres. Money, and our relationship to it, is

implicated in inequalities locally and globally, as well as the environmental arena, where the need for climate mitigation runs against so called economic constraints (Lietaer, 2002, chap. 1).

The potential for an exponential increase in wealth is not only measured, but also facilitated by a monetary system that has emerged in step with the capitalist, shareholder oriented paradigm, for which inequalities and ecosystem destruction appear more as symptoms than independent issues. It is the “pathological growth imperative” (Kennedy, 2012) built into our current globalised monetary and financial systems that cannot be changed by calls for government intervention towards redistribution and a turn to conventional ‘green finance’ (Barkawi, 2017). A more fundamental change of our monetary and financial systems is needed to achieve social stability and environmental sustainability (Bendell and Greco, 2013). From natural ecosystems to technological and social complex flow systems, diversity is a necessary ingredient for systemic resilience (Ulanowicz *et al.*, 2009). In the economic domain, this is relevant for the organisational set-up of national banking systems (Berry, Ryan-Collins and Greenham, 2015) as much as for the number of different exchange systems that facilitate economic activity in service to the provision of needs, rather than an increase in shareholder value (Goerner, Lietaer and Ulanowicz, 2009).

1.2 The diversification of money

It was not only the financial crisis which started in 2007/08 that brought up questions about the nature of today's monetary system and calls for it to change. A second factor that sparked discussion of change and showed how money can, in principle, be very different was the rise of Bitcoin¹ since 2009, or actually the exponential increase of the market price of individual units that are transacted on the Bitcoin network. The media coverage about windfall gains for early bitcoin investors led to a widespread awareness that there are potential alternatives to the money we commonly use (Bholat, Grant and

¹ In this thesis, the capitalised spelling of Bitcoin is used to refer to the currency system overall, while mentions of the units transacted in that system are not capitalised.

Thomas, 2015). In addition, with the price of a bitcoin peaking at nearly 20,000 USD at the end of 2017 and a plethora of new cryptocurrencies contributing to, and benefiting from the hype, the topic even made headline news on main stream media and started an active field of research and practice. However, Bitcoin or the blockchain technology underlying it were not the first innovations in the field of 'new money'. A much broader practice of non-governmental monetary systems has existed in parallel to mainstream money throughout large part of history (Martin, 2014, chap. 4) although for most parts, these have been thinly spread, fragmented and consequently marginal and continue to be hardly visible to the contemporary public. Advances in information technology in the 1980s have led to a faster spread of ideas and implementation tools, which ultimately coalesced under a unifying term 'complementary currencies' (hereafter abbreviated to CCs) used as a common identifier amongst practitioners and researchers around the world (Blanc, 2011; CCIA, 2015h, p. 33). Cryptocurrencies fall within this field, along with so-called 'local currencies', 'time banks', tradeable loyalty systems and business-to-business currencies. Not counting Bitcoin and other blockchain based currencies, three waves of innovations have already been identified in this field over the last 3 decades (Blanc, 2011), which have moved from sectoral or grassroots initiatives to systems that also involve or are even driven by the public sector (Amsterdam City Council, 2015). Even established academics like David Graeber have recognised CCs as an "essential element in any solution" (see in De Grave, 2013) to the financial and economic issues described above.

However, despite the general awareness of potential alternatives - searches about Bitcoin made it into the most queried search terms of 2017 (#2 in the news category and #3 amongst 'how to' questions) (Google, 2017) - what is missing for a widespread democratic debate about reforming money, is the broad knowledge about money as it is, amongst both the public and politicians. The Positive Money² campaign group that is advocating for the change in the issuance arrangements of the Pound Sterling, has recently commissioned a survey amongst members of parliament and found that 70%

² See <http://positivemoney.org> [last accessed 06.01.2017]

of all Members of Parliament still believe that money in the UK is only issued by the government via the Bank of England and the Royal Mint, and that over 62% stated that it was false to believe that commercial banks create money when they issue a loan (DODS, 2017). This ignorance amongst politicians can be assumed to be similar amongst the general public.³

On the other hand, many people who are enthusiastic about Bitcoin espouse misguided beliefs about what it actually is or what it is good for (Reynolds, 2017). If the hope for an easy windfall can be counted amongst the most obvious motivations to invest in cryptocurrencies, big and small, the potential for actual deep-rooted change in the monetary domain seems even further off. Under scrutiny Bitcoin appears not any more egalitarian or sustainable than conventional currencies. Even though it is ultimately impossible to know which person or organisation owns which or how many Bitcoin wallets and the bitcoins therein, it is assumed that on some indicators, such as wealth inequality, Bitcoin fares even worse than the global economy (Fung, 2014; Niel Kondor *et al.*, 2014; Kharif, 2017).

While many complementary currencies are deliberately designed for the benefit of the disenfranchised, they are not only hampered by public ignorance about the concept and practice of money, but actually threatened by the ambiguity of what money is even in legal terms. For example, Will Ruddick, currency innovator in Kenya, and his collaborators found themselves imprisoned just ahead of the launch of the Bangla Pesa⁴, a currency designed to provide the small traders in an informal settlement near Mombasa with self-issued media of exchange to bridge the lack of liquidity in the local micro-economy (Ruddick, Richards and Bendell, 2015). The charges of forgery, which were based on the impression of local law enforcement that the private issuance of something akin to money must be illegal, were later dropped. The

³ This thesis will not dwell on explaining the process and problematique of most conventional money in circulation today being created by commercial banks when they extend a loan to an individual or business. For readers uncomfortable with this viewpoint, the reference to the bandwidth of publications mentioned both from heterodox and orthodox authors and institutions spanning from radical to conservative is expected to console, at least methodologically. For those unfamiliar with the process of money creation, a short publication by KPMG for the Icelandic Government can serve as an 'executive summary' of the topic (KPMG, 2016).

⁴ See http://grassrootseconomics.org/complementary_currencies [last accessed 06.01.2017]

group was released, and their model has since spread with endorsements of local governments to other localities in Kenya and South Africa. Other examples, none so dramatic but all hampering the implementation and adoption of currency innovations, will be discussed in later chapters.

Common to all these cases is that the dominant discourse of money, as established by the media, financial regulators, and the law, has direct effects on the implementation of CCs in terms of their compliance with law or illegality. This conceptual under-determination of money also appears in the different and sometimes conflicting framings of money and currency employed by different practitioners and approaches (CCIA, 2015b). Yet with no coherent theoretic frameworks to understand all kinds of complementary currencies along with conventional currencies such as the Pound Sterling, the US Dollar or the Euro, the contribution that novel monetary practices make to theory and as tools for systemic financial change and sustainable development remains underappreciated.

With the broader conceptual framework for money and currencies here proposed, there are other emergent social and economic phenomena which can be understood as part of this inquiry even if they seem to fall far outside the conventional definitions of money. Rachel Botsman, looking at new business models and collaboration platforms of what she called the 'Sharing Economy' (Botsman and Rogers, 2011), had started to use the term 'reputation capital', in concurrence with financial capital, and also described, along with other commentators, trust and reputation metrics as 'currency' (Birch, 2014; Schlegel, 2014; Burrus, 2016). As far removed from conventional currencies as those might seem, the latest developments of a state-mandated citizen reputation system currently being tested in China, links those two terms directly. This form of reputation is not only said to determine access to public services but also to bank credit (Botsman, 2017a, 2017b, chap. 7).

In fact, credit ratings are already a well established practice for commercial financial institutions, and reputation already plays an important role on internet based businesses like AirBnB (accreditation and user reviews) or eBay (star

rating for vendors and buyers). However, considering those systems as 'money', in a broader sense, allows for a fundamental reappraisal of the kind of metrics we want to base our societal relations and collaborations on, which includes national currencies as much as private systems. In this sense, money will here be framed as "a social design that then designs the social" (Bendell and Slater, 2014, p. 29) and the phenomena of novel technologies and currencies of various forms serves as a starting point to better understand and conceptualise fundamental theories of money today. In the words of Jérôme Blanc as one of the preeminent scholars on the topic: "The empirics of contemporary, so-called community and complementary currencies display various links that help to understand this complexity: it constitutes a field of observation that contributes to the critical examination of both orthodox and heterodox economist approaches to money." (Blanc, 2017, p. 256)

1.3 Situating this Inquiry

Before giving an overview of how this thesis will contribute to the understanding of complementary currencies and monetary theory a few points will be raised to position not only the topic and the findings of this thesis, but the research itself. For the duration of my PhD programme I was based at the Institute for Leadership and Sustainability (IFLAS)⁵ which is part of the University of Cumbria's business school. Combined with an academic background in natural sciences (master-level degree (Diplombiologe) in Neuroscience, University of Freiburg, Germany 2007) and philosophy and business administration (Magister Artium at the same university in 2009) the methodological approach to the topic of money had been informed by various disciplines from the start of the learning journey that finds its conclusion with this thesis. In the years prior to the inception of this current study, I had been working on complementary currency, and for initiatives in that field, in several countries. This non-academic 'on the ground' engagement with the topic necessarily added a distinct practitioner's perspective to the conceptual and methodological approach to this thesis.

⁵ See <http://iflas.info> [last accessed 06.01.2017]

Most relevant for the development of the final research question and the progression of the analysis however was a position as the principal researcher and project manager for the EU Interreg programme ‘Community Currencies in Action’⁶ (CCIA, 2012) at the New Economics Foundation⁷ in London. The aim of that project was to showcase complementary currencies of different kinds as policy delivery tools for local governments. With project partners including the City of Amsterdam, the public bank of the City of Nantes, the Borough of Lambeth in London and the public waste disposal company of the region of Limburg in Belgium, six different currencies in England, Wales, France, Belgium and the Netherlands were implemented or scaled up during the three year project, all of which continue today and one of which will be analysed in Chapter 5. The research and advocacy of the project included the impact assessment of complementary currencies (Steed and Bindewald, 2015), a robust implementation framework (CCIA, 2015h), the development of an online trading platform and the survey of legal and compliance issues for currency initiatives (CCIA, 2015b). The latter was also a precursor to the legal aspects of the research in this thesis, and the establishment of collaborations that were drawn upon for Chapter 7. During the lifetime of the project and beyond I was also called upon for expertise and commentary on novel currency phenomena, particularly Bitcoin, on national and international media.

Predicated in parts by this previous engagement with the topic, the research question that guided this inquiry was whether and to what extent the framings and presentations of money in financial regulatory discourses are consistent with modern monetary practices - particularly when broadening the scope of what is considered as money to include complementary currencies. This broad scope required the research to be not solely defined by existing theories and research programmes about money, neither from disciplines of economics nor sociology. They will be, however, integrated as a backdrop to this inquiry and will be supplemented and discussed in regard to a clear distinction between the two meanings of the word, the concept of money and the actual money we use. This in turn led to the development of an inclusive

⁶ See <http://ccia.eu> [last accessed 06.01.2017]

⁷ See <http://neweconomics.org> [last accessed 06.01.2017]

theory of money, in both its meanings, as a 'discursive institution' or a system that regulates our ideas and behaviour, but is itself constituted and changed by these same ideas and behaviours. It also required the application of a transdisciplinary suite of methods to three varied sets of data. This approach consistently encompasses the conceptual as well as the concrete phenomena from Pound Sterling - in the form of paper notes, coins and electronic bank balances - to Bitcoin and all other forms of complementary currencies.

In this way, the analysis presented here amounts to an ontological account of money that aspires to be applicable to everything that is presented as such, across such diverse texts as the publications of the Bank of England, the law of the United States or the literature on complementary currencies. Apart from this conceptual work, the original contribution of this thesis is: to present complementary currencies as activity systems (Chapter 5) and to highlight the inconsistencies of what counts as money and currency in publications of the Bank of England (Chapter 6) and in the law of the USA (Chapter 7). The findings from this thesis are relevant for monetary theory in general and in particular for its relations to the emergent field of multidisciplinary research on complementary currencies. It also bears implications for policy and advocacy in regards to monetary reform and the implementation of and engagement with monetary innovations (Chapter 8).

With this relatively broad scope, any answer to the question of 'What is money?' cannot only rely upon economic or sociological perspectives, as it needs to consider how individual actors use, define and, particularly in the case of complementary currencies, issue money. This necessarily also encompasses organisational and political dimensions and it would seem impossible to arrive at conclusions that are entirely free from the influence of individual preferences, or socio-cultural ideologies, both in terms of the constituencies that use money in its different forms and the authors that write about it.

More so than with other narrower research topics, any broad treatise on money is informed by and prone to reflect, if only implicitly, my own interest and impetus as a researcher. The results of this can be schematically

positioned on a scale from the purely descriptive ('what is') to the normative ('what ought to be'), and the researcher's disposition can be either theoretic or practice orientated in nature. To exemplify these different approaches to the topic of money as polar positions, the following matrix (Figure 1) has been adapted from one of my previous research papers (Bindewald, 2007). Pointing out these different ways of engaging with the topic of money comes without any claim that the positions marked in this matrix are exclusive to a particular methodological or disciplinary practice and without pretence that such strict separation is found in the existing literature on money, or this thesis. However, in light of the above epistemological question, this schema is helpful in discerning the underlying predispositions found in the studied literature and to help reflect on the thesis at hand.

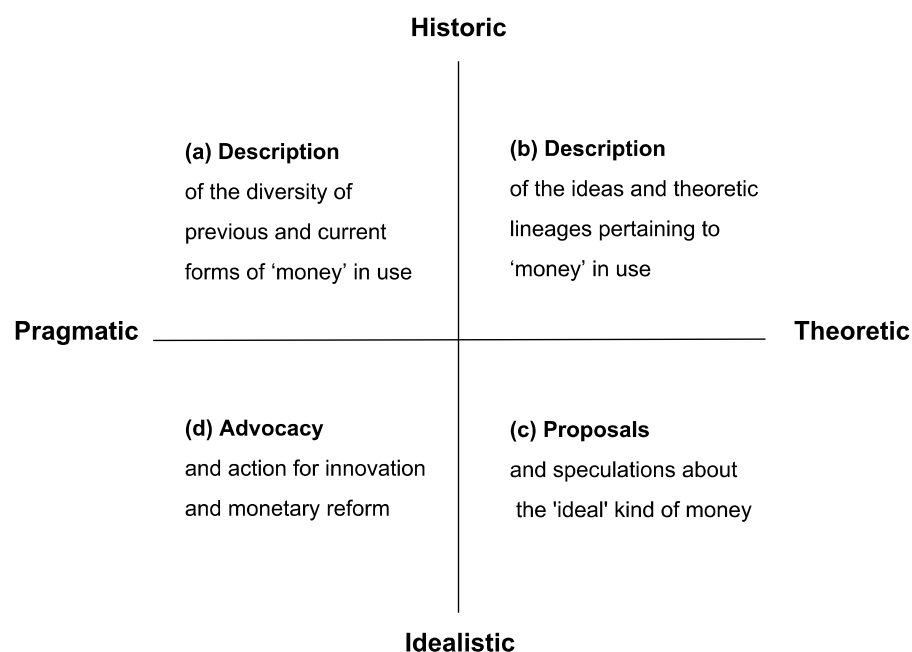


Fig. 1: Ways of engaging with the topic of money.

Adapted from Bindewald (2007).

The *historic-pragmatic* position (a) describes the various forms of money as they were in use throughout history and today and highlight their diversity and development. This is where the recounting of the precursors of conventional money would be situated, including numismatics, as well as the appraisal of

unusual forms of money like cowry shells, wampum belts (Szabo, 2005) and fei stones (Martin, 2014, chap. 1). A puristic inquiry in the *historic-theoretic* quadrant (b) however would not describe the actual money systems in use but the different ideas about or concepts of those systems, including their intellectual relationships and lineages as in ‘schools of ideas’. Continuing clockwise, the *idealistic-theoretic* quadrant (c) represents not descriptive but normative concepts of what an ideal money system should be like regardless of what system is or was in use. Naturally, the features and effects of a novel monetary system described from this position is based on the author’s perception of the shortcomings of historic or the present systems. Finally, the *idealist-pragmatic* approach (d) would not stop at the description of an ideal or better form of money but aim for its implementation through advocacy or direct action. This position can be ascribed to the various efforts for monetary reform emerging around the world (compare International Movement for Monetary Reform, 2018) and in the field of complementary currencies in which new ideas of money are tried out and put into practice often in disregard of conventional money and the theories and regulations it is based on.

In reality, any treatise on money does include some or all of these approaches, to varying degrees. Particularly the two historic positions are often entangled in comprehensive accounts of money such as those discussed in the next chapter. On the one hand, theories are often illustrated or contrasted by the selective presentation of practices found in the present or past. On the other hand, what is included or left-out from any historic-pragmatic account of forms of money would always rely on a theory of what money *is* in the first place. Furthermore, even though academic research strives to exclude subjective normative positions entirely, it is here deemed epistemologically impossible to entirely protect descriptions of the world, or the phenomena found therein, from the describing subject and his or her preferences and ideologies. The review of theories of money in the second and third chapters reflect the entanglement of concepts of money and the existing and historic implementations thereof as found in the literature. An attempt to find a theory of money that can encompass all current forms of

currencies, conventional and complementary, also blends the historic-pragmatic with the historic-theoretic position. Moreover, much of the literature on complementary currencies is characterised by the fact that their authors are, as one academic reviewer described it, “enthusiasts seeking to attract support for their cause” (Cohen, 2004, p. 241) and thus often mixing all four positions.

However, with the social constructivist framework that is introduced from Chapter 2, and the explicit exposé of the author’s background above, a critical reflection on the epistemological limitations of the findings of this thesis and their implications can be offered in the concluding chapters. This critical reflection will also include an appraisal of how far the aspiration to provide an ontological concept of money (as here presented in Chapter 3), capable of encompassing all historic and present phenomena of money, has been achieved. In this sense it is hoped that the warning that money “is a term so frequently used and of such importance that one is apt to overlook its inherent difficulties” (Proctor, 2012, p. 6) is here treated with due and critical care.

1.4 Overview

This thesis does not follow the straightforward structure of research question - literature review - methodology - data analysis - and findings, but presents the exposé of an incremental and transdisciplinary research programme. The topic of money has been treated in different academic disciplines, from economics and sociology to anthropology, psychology and the arts. This is also true for the study of the diverse phenomena of complementary currencies and the multidisciplinary research field that is developing around them since the end of the 20th century (RAMICS, 2016) with an upsurge of interest from academics and commentators since the financial crisis in 2008. This inquiry into the nature of money attempts to remain commensurable with these varied approaches while contributing to a theory of money that is both consistent and relevant for policy and practice.

For this, complementary theoretical elements and methodological approaches will be introduced in Part I (Chapters 2, 3 and 4). The historic and ongoing debates about the nature of money particularly within and across the disciplines of economics and sociology, will be reviewed in those chapters and a new unifying approach, that of “money as a discursive institution” will be suggested and its theoretic foundations and methodological operationalisation for the analytical chapters explained.

The transdisciplinary analytical part (Chapters 5, 6 and 7) will then apply these methodologies to different phenomena of money, starting with the description of complementary currencies as a field of practice and then focusing on notions of conventional money in the texts of central banks and finally the law. In this, the analysis will review and extend the approaches to understand complementary currencies found in the contemporary literature and contribute to their conceptual commensurability with conventional money. It also provides a critical view of the theories of money found in the publications of the Bank of England, particularly since the year 2013, when the public awareness of complementary currencies (from so called local currencies to Bitcoin) challenged commonplace assumptions around the topic and elicited vigorous expert and non-expert engagement on the topic. The last of those analytical chapters scrutinises the legal frameworks of money and thus contributes to the ongoing debate about their appropriateness for modern banking practises and the emergence of complementary currencies as widely used means of payment.

The last two chapters will present the implications of the findings across all previous chapters for theory, policy and research and draw conclusions in light of the issues and current development mentioned above.

Given the diversity of data, approaches and methods, a systematic and combined review of all relevant literature would be impossible. The breadth of the topic in itself, means that “the literature on money is far too much to read and comprehend for a single person” (Ganssmann, 2013, p. 5) particularly in one single research project. Thus, the relevant publications on the individual methods and spheres of money will be presented here step by step

throughout the progression of the thesis. Some sets of the literature were selected throughout my eight year engagement with the topic in general, and my engagement in the academic community on complementary currencies and their international research association RAMICS⁸ and their interdisciplinary journal, the IJCCR⁹. Others, particularly on methodology, were identified through the courses taken at the University of Cumbria during this PhD programme and the feedback received on presentations of earlier stages of this research at specialist conferences like 'Monetary Institutionalism in the French Speaking World' (IMF, June 2016, Lyon¹⁰), the Summer School on Discourse Analysis (July 2016, Vrije Universiteit Amsterdam¹¹) and the annual Critical Discourse Analysis conference (CADAAD, September 2016, Sicily¹²).

From the publications thus identified, an inductive literature search followed the mentioned concepts and references therein. Particularly for the broad scope of the overall topic and the number of particular interests that the research question touched upon, this process was deemed to lead to more coherently linked and insightful references than a database driven systemic search. The 'objectivity' that is otherwise associated with technology enabled systematic literature reviews was thus substituted with hands-on knowledge of experts and the insights from the leading edges of their respective disciplines (compare Jesson, Matheson and Lacey, 2011, p. 15).

Chapter 2 (Theoretical backdrop - Money as we know it) presents two foundational ideas that inform the engagement with the topic throughout the thesis and continues to give an overview of dominant historic theories of money which both provide the backdrop to the next chapters. First the distinction between 'money as a concept', and the implementation of that concept in the form of 'money that we use everyday' is made. The second foundational idea is the philosophical framework of social constructivism and

⁸ Research Association on Monetary Innovation and Community and Complementary Currency Systems, see <http://ramics.org> [last accessed 05.01.2018]

⁹ International Journal of Community Currency Research, see <http://ijccr.net> [last accessed 05.01.2018]

¹⁰ See <https://imf2016.sciencesconf.org> [last accessed 05.01.2018]

¹¹ See <http://bachelors.vu.amsterdam/en/summer-school/courses/DoingResearchwithDiscourseAnalysis> [last accessed 05.01.2018]

¹² See <http://www.cadaad2016.unict.it> [last accessed 05.01.2018]

its implications for the new theory of money that will be introduced in the following chapter. The third section of Chapter 2 traces concepts of 'money' in well known comprehensive accounts of the topic, with particular attention to the dichotomous comparison of metalism and chartalism in the 19th and 20th century.

Chapter 3 (Conceptual framework - Money as a discursive institution) then first reviews a third major theory of money, that of money as an institution, and the way in which different authors refer to this concept, including a review of the philosophical contributions of John Searle (2005, 2006, 2010) and his accounts of money as an example of what he calls 'social facts'. Building on the idea of an institution as a system of rules that stem from and pattern social behaviour the second section will make the theory of 'money as an institution' more specific and operational by describing the concept of 'discursive institutionalism' (Schmidt, 2008, 2010, 2015). This relatively new branch of neo-institutional theories goes beyond the description of institutional phenomena by focussing on the discursive interactions through which rules and norms come about, persist and can change. This leads to the analytical framework here proposed which views money and currencies as discursive institutions.

In the final section, this framework will be applied to the distinction made in the previous chapter, 'money as a concept' and 'money as we know it', as a coherent theoretical approach to both phenomena. In order to clarify the wider scope of the following analytical research, two more elements are introduced to this terminological distinction. The first is the term 'currency' defined as any real existing implementation of the concept of money. This makes 'money as we know it', as in Pound Sterling, Dollar and Euro, into a subset of 'currency' in parallel to, and on conceptually equal footing with, what otherwise are called 'complementary currencies'. The final conceptual extension to this framework is the 'concept of currency', of which the concept of money then appears as a subset. This broadest of the four distinctions also includes implementations (currencies) that fall outside the concept of money. These are, for example, the so called 'reputation currencies' discussed above and

other forms of unit systems that express certain shared values, but cannot be transacted.

Chapter 4 (Methodology- Analysing 'money' as a discursive institution), the last chapter in the theoretical Part I, has five sections, the latter three of which relate specifically to the three chapters in the analytical part of the thesis. The first section explains the transdisciplinary nature of the chosen methods and provides some general remarks on the analytical process that the second part of thesis is based on. Section two provides an introduction to critical discourse analysis (CDA) (Fairclough, 2010) in order to elucidate the nature and scope of what was introduced as discursive processes in Chapter 3. This completes the conceptual elaboration of the term 'discursive institution' and provides a common denominator for the following three distinct methodologies to be applied individually in the analytical Chapters 4, 5 and 6.

The first of those three methodologies is 'cultural historical activity theory' (CHAT) as part of the larger multimodal field of practice theory which is explored in its relation to the discourse theories described in the previous sections. The so called 3rd generation of CHAT models proposed by Yrjö Engeström (2003) is then described as the heuristic lens to be applied for the analysis of the diverse phenomena of complementary currencies in Chapter 5. The fourth section of this chapter presents the second methodology, the 'grammar of institutions' developed by Sue Crawford and Elinor Ostrom (1995), which will be used for the analysis of publications by the Bank of England in Chapter 6. This methodology synthesises and operationalises the neo-institutional concepts explored in Chapter 3 and relates to discourse and practice theories in the way it describes institutions as constituted by statements of rules, norms and shared strategies. The final section gives an introduction to the analysis of legal texts as it will be applied to determine the definitions of money and currency in the law of the United States of America. This also includes an account of why the study of law of that country was chosen and how the legal system in the USA relates to that of the UK. This will not claim to amount to a sufficient legal analysis as required in court, but an adequate critical reading of legal texts in answer to the question of

definitions of money and currency in the eye of the law that is necessary for this study.

With *Chapter 5 (Discursive challengers - The practice of complementary currencies)* the threefold analytical part of the thesis begins. It will explore four different complementary currencies as unconventional implementations of the concept of Money and their relation to 'money as we know it'. Section one will provide a brief overview of the field of complementary currencies and some of the emergent research strands that relate to it. Section two will explain how currency initiatives will be analysed as 'activity systems' according to Engström's CHAT model and the framing of money as a discursive institution. The following sections will then give individual analytical accounts of the complementary currencies broken down by the six elements of the CHAT model. The examples chosen for this chapter are 1) the Brixton Pound (London) 2) the Sardex, (Italy) 3) the Dane County Time Bank (USA), and 4) Bitcoin. These initiatives were chosen for their heterogeneity and the unusual depth of data publicly available about them. A final section will consider the findings from this analysis in regard to the question if complementary currencies constitute a field of practice in relation to Money, and how this relates to their framing as discursive institutions.

Chapter 6 (Fifty shades of gold - A critical reading of central bank publications) will look at central bank publications and how they relate to the establishment of 'money as we know it' from the viewpoint of discursive institutionalism. In the first section critical literature about central bank communications in general will be reviewed. This study will be extended in the second section with a focus on the communication strategy of the Bank of England. The following two sections will present the detailed analysis of a specific corpus of publications of the Bank of England between 2013 and 2017. The first of those two sections describes the procedure of identifying and analysing this corpus and how 170 statements about the terms money and currency found therein were parsed according to the grammar of institutions methodology. The second section will present the findings from that analysis. The extracted statements and parsing results are included in the

Appendix. Subsequently, one peculiar aspect, the reference to gold, found across many of the publications parsed and other communications by the Bank of England, will be scrutinised. The final section in this chapter will summarise the findings and relate them to the progression of the thesis thus far.

Chapter 7 (Mapping a blindspot - Lawful money and lawless money) progresses from the findings of Chapter 6 in regard to the notion of ‘money’ espoused by the Bank of England and asks if there is a clear definition of money in the law. For circumstances explained earlier, previous research relations with lawyers in California provided the opportunity to study the law in the USA under the guidance of legal professionals. Because money is predominantly issued by commercial banks today, the history, development and legislation in regard to banks in the USA is also analysed in this section. In the second section, the definitions and descriptions of money in the contemporary codified statutes, state laws and rulings of the USA and California are researched, with the finding that money and currency are mostly ambiguous concepts that suffer from the overlapping meaning of the word ‘money’ for the concept and its implementations across the legislation in the US. A final section draws together the findings from this analysis and their relevance for the overarching inquiry of the thesis.

Chapter 8 (Implications - For theory, policy and research) presents the implications of the findings from the three analytical chapters in light of the theoretical framework presented in first part of the thesis. This is structured by three distinct perspective from which the findings will be appraised. In the first section the theoretical proposal of ‘money as a discursive institution’ will be reviewed in light of the findings. In the second section implications for financial and monetary policy and regulation will be drawn and exemplary recommendations made for a more commensurate and inclusive financial landscape. And finally, the chapter will reflect on the findings in regard to the transdisciplinary research programme and different individual methodologies applied in the second part of the thesis.

Chapter 9 (Conclusions - The Nouvelle Vague) will pick up the threads from the introduction and relate the framing, findings and implications of this thesis to current events and what they mean for one's personal engagement with the topic of Money and the novel forms of currency, including but not limited to cryptocurrencies.

2 Theoretical backdrop - Money as we know it

The eye has never seen, nor the hand touched a dollar. All that we can touch or see is a promise to pay or satisfy a debt due for an amount called a dollar.

*Alfred Mitchell-Innes:
What is money?, 1913*

2.1 Two questions: Where does money come from?

As was alluded to in the introduction, a critical engagement with money can take many forms and perspectives. In this chapter two points will be discussed to prepare the ground for the analytical parts of the thesis (Chapters 3 - 6): firstly, an overview of theories of money, and secondly the introduction of a novel way to describe money that will form the underlying understanding or 'hypothesis' for that analysis. This way of looking at money as a 'discursive institution' will implicitly be tried out and tested in the following chapters and reflected on in the concluding Chapters 8 and 9. However, before setting out with either of these, two more fundamental conceptual points will be made in regard to the way this thesis will discuss money.

The first of those two points concerns an ambiguity of the term 'money' that appears in most contexts but is particularly relevant when discussing novel and heterodox theories. The title of a seminal book written and published in 2011 by researchers at the New Economics Foundation¹³, the Positive Money¹⁴ campaign and the University of Southampton (Ryan-Collins *et al.*, 2011) helps to illustrate that point: The question that the authors had chosen as the title of their book and which they set out to answer, namely "Where does money come from?", can be read in two interconnected but distinct ways. To start with the more practical one, the question can simply refer to the

¹³ See www.neweconomics.org [last accessed 27.12.2017].

¹⁴ See www.positivemoney.org [last accessed 27.12.2017].

notes and coins we have in our pockets and the numbers shown in our bank accounts. “For many people ‘money’ means ‘coin’ and what [...] is really being asked is ‘How did coinage begin?’” (Grierson, 1978, p. 2) In this more naive interpretation of the question, the contemporary answer would simply point towards the Royal Mint in Wales for coins and the Bank of England in London for banknotes. Also, much more relevant today than in the days when Grierson wrote the above quote, it is the computer terminals at any local bank branch which the electronic units in our bank accounts, that are commonly identified and used as money, originate from. However, that would only refer to the origin of those concrete units with which we count our personal wealth and use to pay for the necessities and niceties of life.

An extension of that same reading of the question would ask for the authorities and their rules or laws that govern the issuance, or the ‘putting-into-circulation’ of those same units. The answer in this case is likely to be more abstract as it includes power structures, legislative procedures, licences by the Financial Conduct Authority (FCA)¹⁵, the setting of capital and liquidity requirements, and the influence of rating agencies, central bank and monetary policies. It would also include concepts such as ‘quantitative easing’ and ultimately the question of democratic or public involvement in setting those rules versus the delegation of all those elements to expert committees. This extended reading of the question “Where does money come from?” looks at money not only as a material or digital ‘object’, but as a political, and by the natural extension of that term, a social phenomenon. It considers not only the object of money, but also the subjects and entities that spend, receive, create, allow, commission and ultimately ‘do’ money. A paraphrasing of this reading would be “How come we have, today, this kind of money and monetary system and no other? And how does it work in detail?”.

There is, however, a second completely different reading of the same question that leads to the point of ambiguity of ‘money’ that needs to be made explicit at the outset of this inquiry. This second reading refers to the concept or idea of money in general, independent from the current monetary regime

¹⁵ See <http://fca.org.uk/> [last accessed 13.12.2017].

with its concrete units, material or virtual which we use as money and with which economists count and recount the world. A paraphrasing of this second reading would ask how it came to be that such a thing as 'money' exists in the world, and what the nature of it is and if we could not do without it. These are, ultimately, questions of ontology or the nature of money and it is this kind of inquiry that this thesis is concerned with. This reading does not look primarily at the practicalities of money, how it is put into circulation and subsequently used, but invokes the heuristics of philosophy, sociology, and the sub-disciplines of historic anthropology and economic history.

However, as distinct and deep as this reading of the question, "Where does money (as a concept) come from?" is, it also has bearings on the first reading of the question. This is because no actually existing money or monetary regime can do without a underlying, conceptual theory of money - at least implicitly. On the other hand, as will be illustrated further on, the interdependence between those two readings of the question and the two meanings of the term 'money', the concrete and the conceptual, is also relevant in reverse: the money we find in our pockets right now, influences the personal and collective ideas we have about money on a conceptual level. The concrete money we were first sent to the shop with when we were small children, to buy milk or sweets, gives form and, if never challenged, a limitation to our imagination as to what money *could* be in general. We develop a bias towards what Keynes called "money as we know it" (Keynes, 2003, p. 208). Even if most people will readily be able to name a few historic forms of money - like shells, gold coins, cigarettes etc. - that are so very different from today's Pound Sterling, it is not only our concept of money that determines its possible implementations, but it is the commonly used implementations that in turn affect our collective conceptualisation.

One correlate of this limitation can be seen in the way economists and even anthropologists appraise the monetary phenomena they historically found in far away places, like wampum belts (Szabo, 2005) and fei stones (Martin, 2014, chap. 1), or that can be observed today in the various forms of 'complementary currencies' that will be discussed in Chapter 5. Where those

are seen as ‘not like money’, because they do not resemble the forms and use cases of the money that the observers knew from their own cultural context (see for example Dodd (2014, p. 32) on Malinowski), the concrete forms of ‘money as we know it’ have set the limits of conceivability for the concept of money. Given this interaction between the concrete and the conceptual any straightforward answer to the question “What is money?” can hardly be expected to both empirically and theoretically robust. Depending on the motivation and intended audience most answers will fall somewhere between the trivial and the vague. If the way of viewing money that this chapter is building up to can offer any epistemological advantages and provide both universality on the conceptual level as well as operability in practice will be reviewed in the concluding chapters of this thesis.

The book that lent its title to this section (Ryan-Collins *et al.*, 2011) is primarily lauded for the first comprehensive and systematic answers to the first readings of the question “Where does money come from?”. It describes in detail how the three predominant forms of money in the UK - bank deposits, cash (notes and coins) and electronic central bank money - enter circulation in what was later dubbed “the modern economy” (McLeay, Radia and Thomas, 2014a). However, as technical and revelatory as that process might be in and to itself, at least for most lay readers, neither that book nor the later publications by the Bank of England, that confirmed the contemporary process of money creation by commercial banks, do without excursions into the historical and philosophical territory that pertains to the second reading of the question as discussed above.

This inclusion of easy to picture ‘stories’ like that of medieval goldsmiths (see Ryan-Collins *et al.*, 2011, chap. 3) and even Robinson Crusoe (see McLeay, Radia and Thomas, 2014b, p. 6) seems to provide some conceptual respite to these otherwise technical texts. However, they can also be seen as a deliberate stylistic choice to support a certain conceptual theory of money instead of being an explicatory necessity for the clarification of the creation of concrete money. In the same way the iconography and graphics presented in or along with these texts and their recourse to everyday and personal

experiences in regard to money seem conducive to the acceptance of the argument with wider-than-expert audiences. They also shroud the presentation of the concrete in a cloud of what Dodd calls the semi-normative “origin myths” of money (Dodd, 2014, p. 47). This nexus of stories and framings in monetary theory will be discussed in more detail in Chapter 8.

For now, two meanings of the word ‘money’ will be submitted as the first foundational distinction of this thesis. On the one hand the word refers to ‘money as we know it’, the units we use every day and with which most of us will have been familiar since childhood. In the UK, that is Pound Sterling in its different forms, in other constituencies the same is known by different names like Euro, Dollar or Yen. On the other hand there is ‘money as a concept’, the wider and more elusive idea that seems as familiar and taken-for-granted and yet, if asked about, becomes strange and hard to describe.

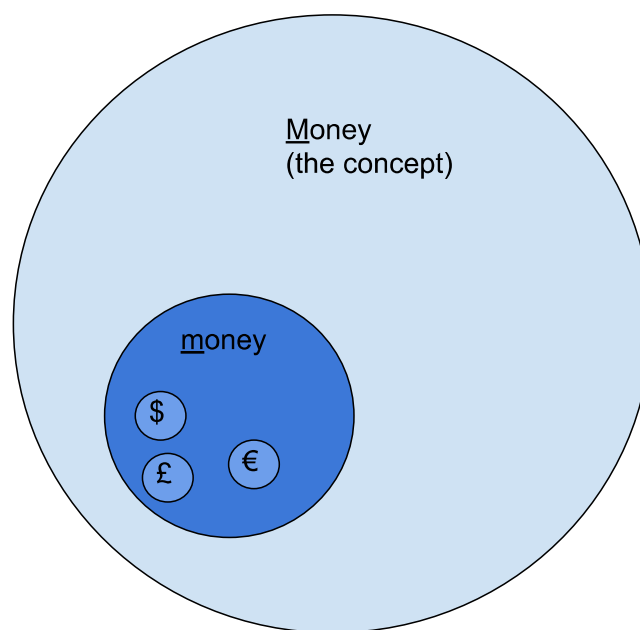


Fig. 2: The relationship of the concept of Money and ‘money as we know it’.

To mark this distinction, the capitalisation of the word ‘Money’ will be used to refer to the ‘concept of Money’. This is in direct analogy to the use of capital letters in Platonic idealistic philosophy¹⁶ where a word written with a capital letter refers to the idealistic concept of something, an archetype. The word

¹⁶ Another way to describe the nature of “Money the concept” would be the “regulative ideas” in Kantian philosophy. Georg Simmel drew on that comparison in his concept of ‘perfect money’ (compare Dodd, 2005b, p. 275).

Chair, for example, with a capital C means the general concept for all the everyday material objects that fall into this category. Written with a small c, the same word refers to any one of the particular instances or representations of that category, for example the chair one might be sitting on while writing or reading this paragraph. In this latter sense the word money with a small m will be used in this thesis to refer to the particular form or implementation of the general concept of Money that we carry around with us and which probably comes up in our minds when we are asked to picture 'money'. This categorisation of Money and money is an original suggestion and should not be harder, in theory, to observe as with other analogous distinctions. It seems obvious, for example, not to speak of identity in general when we discuss national passports, or not to use the word transport as synonymous with cars. In practice however, steering clear of the ambiguous use of the two meanings of 'money' is difficult to achieve.

The confusion of the two, money and Money, is one of the heuristic difficulties and epistemological shortcomings in the way 'money' is discussed both in everyday language and, as this thesis will highlight, also in expert and academic texts. Hence, 'money' with single inverted commas will be deployed when referring to the ambiguous use of the word found in the specific texts that are analysed in the following chapters. The degree to which the two, the concept Money and the 'concrete' money we use today, are distinct will become more pronounced when novel and unusual forms of money are discussed at the end of this chapter and particularly in Chapter 5. Maintaining this separation of the two, at least when considering questions of what money 'is', may help resolve the state that some authors describe as "schizophrenic for the most, as we indeed perceive it at once as a universal and a particular" (Sgambati, 2013, p. 6) which this thesis argues is an unnecessary state of confusion. We are used to the difference between ideal concepts and real instantiations of many things of everyday life. Extending this awareness in regard to 'money' is a precondition to enable critical engagement and enable change both in theory and practice.

The relation of the two terms, money and Money, is here visually depicted as two concentric circles (see Figure 2). The way they have been presented so far clearly assigns the smaller circle to money, the particular and specific implementations that can never fully exhaust all the different forms that could theoretically be imagined in the scope of the big circle which represents the concept of Money. However, the graphical representation of this distinction raises the question why the different forms of money that people use in different countries are not depicted as individual subsets of Money. This is because of the contrast of all forms of 'money as we know it' with what will later be introduced as 'complementary currencies'. Compared to these very different forms of money, all 'national currencies', the Euro, Pound Sterling, Dollar, Peso, etc., seem very much like the same kind of money. Thus they are here treated as the same implementation of the concept of Money, which in the following will also be called 'conventional money'. This conceptual point is also consistent with the homogeneous way most of those 'national currencies' are issued today. Particularly since the Bretton Woods Conference at the end of the Second World War, the monetary and banking systems all around the world have converged on very similar *modi operandi*, with the US Dollar as their common 'reference currency' and various international institutions, like the World Bank¹⁷, the International Monetary Fund (IMF)¹⁸ and the Bank for international Settlements (BIS)¹⁹ contributing to the recognition and consolidation of this dominant monetary regime.

At the end of this chapter we will also come back to the relation of the term 'currency' - including and transcending its common use in 'national currencies' - in regard to the terms Money and money and elaborate on this in a more complete version of the graphic depiction of those terms. Before that, the second conceptual notion that was alluded to at the beginning of this section needs to be introduced.

¹⁷ See www.worldbank.org [last accessed 18.01.2018]

¹⁸ See www.imf.org [last accessed 18.01.2018]

¹⁹ See www.bis.org [last accessed 18.01.2018]

2.2 Social constructivism

The theory of knowledge called social constructivism can be traced back to the 1970s when it emerged at the confluence of certain research questions in philosophy, psychology, cognitive theory and sociology. It posits that knowledge is only ever a property of, and constituted by, our perceiving and processing minds. According to this proposition, to 'know' something becomes a process, rather than a certainty, because the predisposition of the observer - physical, psychological, emotional and mental - and his or her expression of what is being observed are of equal importance with the 'nature' of the object that is observed or talked about (Gergen, 2009). There is no 'objectivity' that requires us to talk about a certain phenomenon in a certain way. "Everything said is said by an observer to another observer that could be him- or herself." (Maturana quoted in Riegler, 2005, p. 4)

What follows from this is a sceptical alertness about the subjective nature of all descriptions of the world, even when personal descriptions are joined into collective ideas. Notions of truth, reality and objectivity become less robust or self-evident and need to be equally reconsidered as socially constructed as the objects, statement or 'facts' that would commonly be described as true, real or objective. "Truth cannot be out there - cannot exist independently of the human mind - because sentences cannot so exist, or be out there. The world is out there, but descriptions of the world are not." (Rorty, 1989, p. 5) Furthermore, for the radical social constructivist, this is even valid when talking about material objects of which our senses give us a very convincing impression of their 'reality'. Even while we knock our hand on the table in front of us, nothing about that table can ever be expressed other than in words - and those very words and the concepts they express are always socially constructed (Edwards, Ashmore and Potter, 1995, p. 26). This creates the fundamental divide between what we can know about the world and what the world out there might 'actually' be like, including that table that we might even have bruised our insistently banging knuckles on.

This turn away from the realism of the phenomena observed in the world towards an acute awareness of the limitation of what we can know about them

and the way we can talk about them is known as the 'linguistic turn' in social sciences. The foundational work that enabled and demanded this turn, a long time before the idea of social constructivism emerged, were the later works of Ludwig Wittgenstein. In his concept of 'language games' (Wittgenstein, 1986) he unravelled how the words we use cannot so much be seen as representations of the world around us but rather as entities to themselves that are in principle independent from that which we employ them to describe. In this way he warned that the correspondence of our words with the phenomena outside of us purely depends on the way we use those words in our communication, be it written or verbal. No other relation can safely be assumed.

This does not only lead to many equally valid but potentially conflicting descriptions of the world, but also allows for a certain resolution or dissolution of those conflicts, at least on a meta-linguistic level. Because as long as we are aware of the social construction of everything we express, the encountered contradictions do not appear as insurmountable conflicts but simply as a rich diversity of expressions that can help us to explore the social world (Harré and Tisaw, 2005).

These ideas have not only informed a careful reconsideration of many aspects of the subjects and methods of philosophy and social sciences (Burr, 2003, p. 176), but have also been applied to the otherwise methodologically self confident natural sciences and their positivist assumptions (Kuhn, 1962). However, when applied to the material world, constructivism alone often seems inadequate in giving a satisfactory description of the effect that the world out there has on us as part of that world. Even if we admit that the sentence "I hurt my hand on this table" is only useful within an interpersonal language game and might not express anything 'real' about the world, we are still certain that something has occurred and it will happen again unless we change our behaviour and stop hitting the table. "Counter to some extreme constructivist positions, [the recognition of] the constitutive role of language should not lead to the idealist conclusion that the world emanates from people's heads and/or mouth." (Nicolini, 2012, p. 199)

This idea is expressed in a theory called ‘critical realism’²⁰, pioneered by Roy Bhaskar, which establishes a methodological middle-ground between radical idealism and crude positivist materialism (Collier, 1994). In his PhD thesis, University of Lancaster student Hidenori Suzuki has deemed this middle ground of critical realism to be the necessary starting point for any study of money (Suzuki, 2004, p. 34) in order to make sense of the material means of transactions found in everyday use: notes, coins, cheques, credit cards. However, for this present study, those material transaction media of ‘money as we know it’ are not the reason to call upon a critical realist standpoint as their materiality is not likely to pose particular epistemological difficulties for the analytical framework here proposed. Rather is it important that the critical realist stance reminds us as observers about the lifeworld relevance of the object we study (Fairclough, Jessop and Sayer, 2010). Therefore, even if the following portrays both Money and money as socially constructed, their effects will not play out in the world of ideas alone. Monetary theory sits at the heart of economics and finance and thus exercises a very real and visceral influence on the world including the material bodies therein. To view monetary phenomena “and their protocols as performative or as fictional is thus not to deny their force” (Karl, 2013, p. 75). Or poignantly expressed in the words of a remorseful ex-investment banker in the 2015 movie “*The Big Short*” (McKay and Lewis, 2015): “You know what I hate about fucking banking? It reduces people to numbers. Here’s a number - every 1% unemployment goes up, 40,000 people die, did you know that?”

Some theories and concepts of ‘money’, discussed in the following, explicitly address its socially constructed nature. The implications of social constructivism and critical realism for other conceptualisations of the nature of ‘money’ will be discussed in the next chapter. In order to understand the scope of this philosophical framework for theories of ‘money’, one illustrative example is given here. It is chosen because it reappears explicitly or implicitly in the concepts of ‘money’ discussed and analysed throughout this thesis. It is also often used to represent the essence of material objectivity when it comes

²⁰ The use of the word ‘critical’ here differs from its use in the rest of the thesis as it does here not refer to an alertness towards power structures and ideologies but simply describes a certain distance from the more radical positions of materialism and relativism.

to money: the so called 'intrinsic' value of gold. Not only are gold coins probably the most iconic representation of money, maybe rivaled only by the US dollar symbol, but for many they are also the quintessence of 'good money': stable in value, safe from manipulation or inflation of the monetary supply, independent from legitimizing authorities. The argument heard is that it carries its value within, what is called intrinsic value, by merit of its scarcity and its ultimate stainless nature (Bjerg, 2014, p. 92).

If value was deemed to be a social construct, that would make it the opposite of 'intrinsic' as it would depend on the observers, who construct it, and not the object itself. But how far could a claim of social construction be made in regard to the value of gold? Under the premises of critical realism, it remains straightforward to acknowledge that there exists such a thing - which is elsewhere called a chemical element, a metal - identified by the word 'gold'. Its mere existence does not depend on us as observers. This is what is referred to as a 'brute fact', a term that will be explored further in the next chapter which considers the constructivist theory of philosopher John Searle (1996). Along with the material existence of gold come, in relation to other brute material realities, certain properties: it is, for example, non-corrosive even in presence of strong oxidizing agents and it is easily malleable even within the range of forces that can be exerted by the unaided human body. Those two properties mean it can be easily polished and will maintain its shine for a long time. But that shine also depends on such material realities of the literal eye of the beholder as the arrangements of light receptors therein.

These two properties can be said to be intrinsic to gold, if not in the sense of a radical constructivist epistemology - as nothing can be shiny or golden without an observer - so at least in a critical realist appraisal. However, do they constitute value? Certain optical qualities can be said to have aesthetic value, at least to the human observer. In addition, gold's malleability and durability are valuable in a practical sense, being advantageous in the production of coinage and storage of media of exchange made from gold. However, that usefulness is analogous to the way that modern contactless payment technologies are of value to the retail and payment industries because they

are easier for consumers to handle when compared to ‘chip and pin’ or even ‘cashier’s cheque’ technologies. In this sense it seems more elucidating to talk about gold’s use value rather than its intrinsic value. The unique qualities of gold here mentioned also mean that it has a certain use value in the electronics and medical industries. Furthermore, another brute fact about gold is that it is a relatively scarce chemical element.

However, are those qualities taken together enough to uphold the idea that the value of gold is intrinsic and not a social construct? Does scarcity necessarily predicate value? At the time of writing, a fine ounce of gold was valued at about 1300 USD. The same quantity of the element silver trades at roughly one percent of that price (16 USD on December 27th 2017). To give another point of comparison, an ounce of aluminium can be purchased for about 5 cents. Is this difference justified by the use value of those metals, their scarcity or other factors? When looking at what the available amounts of those metals are used for, it turns out that silver seems to outstrip gold by far in its usefulness. For example, half of the total available silver in 2016 (1027 tons) went into industrial use whilst a fifth went into coins and silver bars (Statista, 2017b). Gold, on the other hand, was much more abundant that year, 4372 tons altogether. However, only 7% (320 tons) of that went into industrial use, a quarter of it (1029 tons) became bullion and coins and further purchases by central banks and other financial institutions accounted for another 25%. The rest, over 2000 tons, went into the single largest use of gold, fin 2017 and probably any other year: jewellery (Statista, 2017a).

However, only a fraction of jewellery is ever worn at any given time and it can be safely assumed that many purchases in that segment are of a similar nature as the purchases of gold bullion and coins. However, even if it is hard to tell genuinely aesthetic value from primarily speculative value apart, these numbers add to an argument against the concept of using ‘intrinsic’ value to account for the two orders of magnitude between the prices of gold and silver. The largest part of the value of gold seems to be socially constructed in the end: we value it because it is pretty and because many others before us have deemed it valuable on those ground, and many more will probably continue to

do so. This realization might not be as much a striking dismantling of the appeal of gold as that of mystical King Midas who gained the power to turn all that was put before him to gold, and ultimately died from starvation due to this power, and that which the North American first peoples had warned the western settlers about - 'one can't eat it!' - but at least for the following discussions of different theories of 'money' it will be useful to bear it in mind.

2.3 Conventional accounts of 'money'

Whilst it might be assumed that money is an important element in the study of economics, Larry Meyer, Governor of the Federal Reserve Board, explained in 2002 that "money plays no explicit role in today's consensus macro [economic] model, and it plays virtually no role in the conduct of monetary policy" (King, 2002, p. 162). Furthering this proposition, Silja Graupe, professor for economics and philosophy in Germany, found in her recent analysis of key academic textbooks that the whole discipline of economics from classical authors to contemporary lecturers and students alike is caught in a "prison of mental constraints (*Denkgefängnis*)" (Graupe, 2017b). The foundations of which are, according to Graupe, to be found in the theories of Walras, Schumpeter and Menger who all present 'money' as "a simple fact of experience, which is so self-evident, that it does not require any discussion" (my translation of Graupe, 2017a, p. 123). This crossing of the boundaries between the descriptive and the normative, from "real-type concepts to ideal-type concepts" as she puts it (Graupe, 2017a, p. 128), resonates with the Platonic differentiation between Money and money introduced above and leads to no more than a circular argument about the nature of 'money' which only preserves it as a self-reinforcing blind spot: we habitually know a certain money which informs our concept of Money - and this in turn determines how we theorise the implementation of money. Thus change seems neither conceivable nor necessary.

Philosophically, economics can be seen as a branch of utilitarianism, meaning that the consequences of actions are the basis for judging their rightness or wrongness, and many problems in economics are about the optimization of

aggregate outcomes and involve cost-benefit analyses. In contrast, lawyers, whose discipline is derived from deontology, meaning some actions are intrinsically right or wrong according to accepted normative rules, would tell an entirely different 'origin story' of money (Bholat, Grant and Thomas, 2015). Where economists typically ponder how 'money' arose as a transaction cost-reducing and utility-enhancing device to overcome the double-coincidence-of-wants issue of traditional barter (as which gold coins can be easily identified as), lawyers and some institutionally minded economists would look for the origins of money in the statutes of the state.

Such departure points and assumptions predetermine what final theory of 'money' will be espoused by a particular discipline. Subsequent efforts often involve verbose pickings from the classical philosophical and sociological canons to find the origins of one or the other view on money, even back to the terminology used in ancient Greek texts (see for example Sgambati, 2013) without acknowledging how any searchlight skimming the breadth and depth of the historic record will be guided by some prior theoretic conviction and be biased towards the 'evidence' that support such conviction. Today, the literature on money appropriately encompasses many disciplines (Dodd, 2014, p. 7), from pure economics, to business studies, economic sociology, anthropology, political sciences, psychology and even the arts. Both methodologically and practically it might thus appear as a pardonable simplification that, "as a rule, a scholar projects his favourite definition of modern money into ancient history." (Alla Semenova quoted in Meier, 2017, p. 10). Those who gravitate to the idea of money being based on gold will easily be blinded, and misled (compare Brodbeck, 2013b, p. 5) by the shiny historic record displayed by numismatics and the common sense logic of the stories of barter as the starting point of monetary history. And those attracted to the equally current and 'obvious' idea that money is a 'creature of the state' always have plenty of written records to show how any state has always dealt in and with money.

In essence, the treatise of monetary theories attempted here, and the hypothesis it builds up to, will not be fundamentally different or free from this

epistemological fallacy. Only the explicit constructivist grounding of the arguments is here deemed to afford a critical distance from which the idealistic coherence and practical usefulness of the following can be scrutinised. This methodological caution goes along with a practical eclecticism. Many classic and even modern lineages of monetary thought and their respective proponents will not even be mentioned. However, as a backdrop and a reference for further inquiry, the following works from the past 20 years, which attempted a more complete look at the historic developments of 'money' than can here be provided, should at least be mentioned.

In 1994 Welsh economist Glyn Davies published his major book "A History of Money - From Ancient Times to Present Day" (1994) reviewing monetary and economic practice and thought from prehistoric periods to the inception of the Euro. This was followed in 2002 by the "Lost Science of Money", an equally detailed (and large) account of the political and economic legacies of monetary regimes by Stephen Zarlenga, the founder and late director of the American Monetary Institute (2002). Perfectly timed with the financial crisis, historian Niall Ferguson's 2008 book and feature TV documentary "The Ascent of Money" (2008) brought the history of high finance and its political embeddedness back into popular reception. From 2011 London School of Economics (LSE) anthropologist David Graeber's book "Debt the first 5000 years" (2011) popularised heterodox ideas of money and brought the historic evidence from cultural anthropology to bear on common perceptions of money and finance (see Brodbeck and Graupe, 2017, p. 336). In addition, Felix Martin's more eclectic 2013 book "Money, the unauthorised biography" (2014) further established the idea that monetary history not only consists of many converging ideas but is strewn with marginalised and often forgotten innovation, aberration, and conflict.

Along with this progression of accounts of 'money' as a historical phenomenon, there has been another revival of monetary thought since the 1990s (Ingham, 2004, p. 18), from an explicitly sociological perspective. For his book "The Sociology of Money" (1994), LSE sociologist Nigel Dodd claimed to have provided the first systematic treatise on the matter,

incorporating monetary ideas from the founders of the sociological discipline of the late 19th century (particularly Georg Simmel) to the postmodernist commentators of the present day. His contribution will provide one of the main references for sociological theories of ‘money’ in the following chapter. And his approach did not only call for a multidisciplinary analysis of money but also for an inclusiveness towards the diversity of monetary phenomena, historic and novel at a time when the effects of financial deregulations of the 1970s and 80s became apparent, both in order to develop robust and universal theories. Published only three years later, this same notion, but with a different empirical focus, can also be observed in the work of American sociologist Viviana Zelizer. In contrast to Dodd, her seminal work in redescribing money as a diverse and fluid social phenomenon, focussed not on the unprecedented flows of virtual capital to offshore accounts, but the small everyday monetary practices like the “earmarking” of bills and coins to be saved for specific purposes. This led her to reconsider the concept of ‘money’ in light of its social embeddedness. (Zelizer, 2017, first published in 1997).

The idea common to Zelizer and Dodd, that money is plural phenomena, has been described by Blanc et al. as a “specter [...] haunting contemporary monetary theory” (2013, p. 1). However, from the outset of this thesis, describing ‘conventional money in the light of the practice of complementary currencies’ means plurality is not a spectre, but a given. With this in mind, no theory can be deemed satisfactory if the variety of phenomena found today, in the past, and, to the degree that such speculation is possible at all, in the future cannot be understood by its application. With this aspiration, what follows is a short walk through the history of monetary thought which will set the scene and highlight precursors for the conceptual basis of this thesis to be introduced in the next chapter.

Two persistent theories of money - metalism and chartalism - can be found throughout the comprehensive works about ‘money’ mentioned above. Yet neither of these can make the diversity of implementations of the concept of Money fully accessible (compare Brodbeck, 2013a, pp. 460–470). A brief overview of these two theories and the developing lineages of their

proponents will be given before we turn to institutional theories of money as a unifying concept from which the novel stance of 'Money (and money) as a discursive institution' will be developed in Chapter 3.

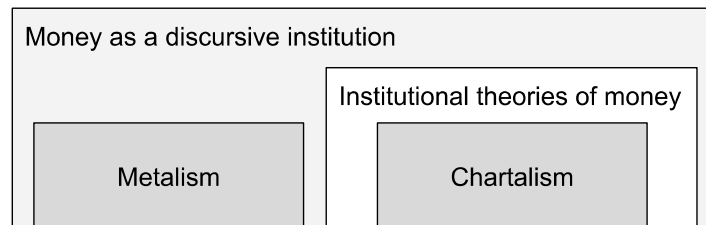


Fig. 3: Simplified relations and scope of monetary theories discussed here (metalism and chartalism) and in the following chapter.

Aristotle and Plato are amongst the first references on theories of 'money' (Schumpeter, 2006, pp. 48–70; Menger, 2009, p. 16) in economic history, and interestingly, the seeds of both metalism and chartalism can be found in the writings of Aristotle. In *Politics* (ca 350 BC) he gives a short version of what was later called the "myth of barter" (Graeber, 2011, p. 21) about the origin of money: "they invented something to exchange with each other [...], that being really valuable itself, should have the additional advantage of being of easy conveyance, for the purposes of life, as iron and silver, or anything else of the same nature." (Aristotle, 1981, v. 1257a) From this statement scholastic interpretations in the early middle ages have derived the '5 criteria for good money': durable, divisible, convenient, consistent, and have use value in and of itself (Langholm, 1998, p. 492), which became the "lynch-pin [sic] of medieval economic thought" (Fox, 2011, p. 146). The barter myth and these 5 characteristics of 'good money' wrongly attributed to Aristotle himself, continue to be the basis of the metalist argument and Aristotle is called upon as an authority in support of this theory (Bell, 1998, p. 2) particularly when an author defends gold as being the most sound basis for all money (compare Higgins, 2017).

This appears particularly debased when paying attention to the other well know Aristotelian reference to 'money', this time in his later *Nicomachean Ethics* (ca 340 BC), in which he states: "Money [...] exists not by nature but by

custom/law and it is in our power to change it.” (Aristotle, 1975, bk. IX.8, 1133b) This serves as a historic reference for theorists and advocates of monetary reform who oppose the metalist notion that a materialistic basis can illuminate the essence of ‘money’. Their chartalist theories replace any notions of ‘money’ as a natural and material object with the equally narrow understanding of it being in essence a creature of the state (Wray, 2012b, p. 4). We will come back to that second predominant theory on ‘money’ further on.

However, for long stretches of economic history and monetary theory the metalist viewpoint dominated the debate supported by the tangible archaeological record of coins found since the introduction of electrum coins in the Lydian empire around 600 BC (Graeber, 2011, p. 224). From then on the issuance and usage of precious metal coins follows the history of shifting political hegemonies up into modern times in what Graeber calls the “military-coinage-slavery complex”, which also obliterated not only the practices but also the theories of different monetary regimes (Graeber, 2011, p. 356; also compare Dodd, 2014, p. 95). Even in comprehensive historical accounts of ‘money’ different regimes of metal coins dominate, while alternative or parallel forms of monetary systems, like the bills of exchange used by merchants across Europe since the Renaissance (Martin, 2014, pp. 95–103) are relegated to a time-line separate from that of money. This is even reflected in the structure of books like “Money and its history from the middle ages to present day” (North, 1994) where these two phenomena are treated in separate sections throughout most of the chronological chapters.

One reason for the firm establishment of metalist ideas in the canon of monetary theories was that they were picked up in the writings of Karl Menger (1840 - 1921) at the end of the 19th century and thus formed the foundational reference for the influential Austrian School of economic thought (compare Dodd, 2014, p. 17). In parallel Karl Marx (1818 - 1883) developed his critique of capitalism on concepts of money that referred to precious metal supported money as “real” whereas other forms became labelled as forms of “fictitious capital” (Dodd, 2014, pp. 55 & 62) and credit extended by banks was clearly

said not to be 'money' (Dodd, 2014, p. 87). However, even though the nature of the Marxist idea of money remains under debate into the present day (compare Ingham, 2006), his analysis of money as a primary element of the capitalist system inspired a tradition of critiquing the "violence of money" (Dodd, 2014, p. 43) not only from explicitly Marxist authors (see Aglietta and Orléan, 1982).

In the first half of the 20th century monetary theories were challenged by the repeated changes to national monetary regimes in the run up to and during the two World Wars, including changes to the precious metal backing of national currencies, while the adoption of electric telegraphy technologies ushered in a new era of payments and banking practices. Both made the metalist case difficult to maintain not only in regard to general theories of Money, but also in regard to the then current money (Bell, 1998, p. 2). With this, the second grand theory of 'money', the chartalist view that money was a genuine instrument of the state, reemerged. Georg Friedrich Knapp (1842 - 1946) and Alfred Mitchell-Innes (1864 - 1950) paid particular interest to the accounting practice of bankers and on that basis developed their theory of money not as a standard of value derived from precious metal backing, but as a credit instrument. The classical chartalist view proposed by Knapp continues to assert that only the state, by merit of its power to impose taxes, can guarantee some use value to the units of credit that are being created, by central or commercial banks alike (Dodd, 2014, p. 102).

Mitchell-Innes agreed that 'money' is not metal but predominantly credit extended from one actor to another, but he did not share Knapp's strictly state-focused views. Staying mindful of the mercantile credit systems (bills of exchange) that existed since the middle ages he remained open to the idea that money can be created both by the state and by private enterprise. There is one reading of the legacy of those merchant credit systems and the competition that they posed to and faced from sovereign money (Dodd, 2014, p. 217), that led to the "great monetary settlement" with the creation of privately owned but state chartered central banks like the Bank of England in the 17th century (Martin, 2014, p. 109). With this the chartalist idea of state

sanctioned credit and the practice of private enterprise credit became blurred. Chartalists did not have to give up their ideas that the state defines money, while broader theories of credit persisted with equal confidence and private corporations gained licence and opportunity for “issuing private money on a monster scale” (Martin, 2014, p. 266).

The monetary theorist who dominated the interbellum period of the 20th century and followed Knapps’ state-centric ideas in principle was John Maynard Keynes (1883 - 1946). His theory of money espoused in volume 1 of his seminal 1930 “Treatise on Money” is more nuanced and allows for different monetary regimes, from the gold standard to pure fiat money, and would in principle also allow for non-governmental forms of money (Keynes, 1976, p. 3). But his focus on macroeconomic policy made the state the focus of his inquiries and conceptualisations. His influence on theory and policy after the Second World War particularly manifested in the tradition of Keynesian and later Post-Keynesian economics, from which today’s most prominent school of chartalist thought, the so called Modern Monetary Theory developed (Wray, 2015).

Keynes’ contemporary Joseph Schumpeter (1883 - 1950), followed Keynes’ analysis of the importance of monetary regimes for the stability of the capitalist system and incorporated the state sanctioned money/credit creation by commercial banks into his famous theory of boom and bust cycles (Dodd, 2014, p. 112). His student Hyman Minsky (1919 - 1996) has recently received new recognition for his work on monetary theory that operationalised the credit theories as balance sheet operations - both at the central and the commercial banks - and his warnings about the possible bubbles and blowouts that this practice can entail (Bell, 1998, p. 6). For Minsky, there is nothing special or elusive about money. In fact, he says, “everyone can create money; the problem is to get it accepted” (Minsky, 1986, p. 228). Consequently he introduced the concept of a hierarchy of acceptability for the different forms of money that are today issued by central banks (their money sits at the top of the hierarchy), and commercial banks. He also introduced novel payment instruments developed by non-banks that emerged with the

revolution of information and communication technologies from the 1970s, including what today would be called e-money, parts of the so called 'FinTech' sector and private currencies (Minsky, 1986, p. 255).

The idea of money being a multifaceted phenomenon was also at the heart of the monetary theories of the later Friedrich August von Hayek (1899 - 1992). He is best known for his debates with Keynes about economic policy in the 1930s, in which he took a strong market-orientated position. In the second half of the century he further established his acclaim for his strong individualistic viewpoints which are often credited to be the dogma on which neoliberal policies were later founded in the US and UK (Bindewald, 2009). But at the same time his theories on money developed a distinct viewpoint, that put him at the extreme opposite to chartalist thinking. In the "Denationalisation of Money" (Hayek, 1990), which advocated for commercial banks to issue their own kinds of money, he describes the advantages of multi-currencies systems and decried any positive role of the state in determining or issuing money. In contrast to what one might expect with such a proposal, he seemed to still retain a rather limited 'Austrian' and, at heart, metalist scope as to what he imagined the many different forms of money could be, as he only talks about different precious metals as their basis of issuance and gives a fictional Swiss example called the 'ducat' (Hayek, 1990, p. 46). Apparently ignorant of the fact that at the time of his writing there had already been many examples of different forms of money issued without the licence of a state, for example the Swiss WIR Franc²¹ which was already in circulation for over 40 years (Dubois, 2014) when Hayek developed his thought experiment of the 'ducat'. Yet, he maintains that there is

"little empirical evidence of how the various conceivable methods of supplying money would operate, and almost none about which kind of money the public would select if it had an opportunity to choose freely between several different and clearly distinguishable kinds of money. [...] Although perhaps the most important reason for not having better money is that there has not been enough experimentation to lead to agreement about what kind would be desirable." (Hayek, 1985, p. 325)

²¹ See www.wir.ch (in German, French and Italian) [last accessed 27.12.2017].

Today, as it can safely be assumed that every economist has at least heard about Bitcoin, such a general statement is no longer convincing. However, given his limited outlook, we cannot rely on Hayek to provide a comprehensive theory to encompass all the diverse monetary phenomena that are included in the scope of this thesis. For now, only a conceptual departure point that goes beyond metalism and chartalism has been gained by looking at Hayek and the ambiguity of the term ‘money’ that he noted:

“Although we usually assume there is a sharp line of distinction between what is money and what is not - and the law generally tries to make such a distinction - so far as the causal effects of monetary events are concerned, there is no such clear difference. What we find is rather a continuum in which objects of various degrees of liquidity, or with values which can fluctuate independently of each other, shade into each other in the degree to which they function as money.” (Hayek, 1990, p. 56)

That later authors have made reference to Hayek when they speak of proposals “that money be abolished altogether” (Orléan and Debevoise, 2014, p. 161) only confirms the continuation of this ambiguity. However, to establish a theory that does not understand ‘money’ as just one thing, based on gold, or a phenomenon exclusive to the power of the state, this exploration will be continued with the concept of ‘money as an institution’ in the next chapter.

3 Conceptual framework - Money as a discursive institution

Individuals make certain choices or perform certain actions not because they fear punishment or attempt to conform [...]. New institutionalism suggests that [they] make certain choices because they can conceive of no alternative.

*Joji Valli:
CSR - a multidisciplinary concept, 2015*

3.1 Institutional theories of 'money'

German scholar Karl-Heinz Brodbeck in his most recent book "Money! Which Money? - Money as a figure of thought" (my translation of the title of Brodbeck and Graupe, 2017) gives a dual epistemological analysis of the monetary theories reviewed in the previous chapter. Similar to the distinction introduced here so far, for him, ideas about money originate from two different questions: one about the historical genesis of money, the other is concerned with the validity of money, which in German not only implies its legal or logical foundation but also value and purchasing power (Brodbeck and Graupe, 2017, p. 8). To him, both questions have two clear sets of answers, which in some senses overlap. The metalists' theory answers to both the genesis of money, in terms of a spontaneous development as a solution to the unlikelihood of coinciding wants and needs in a barter scenario, and it also provides an answer to the question of validity with its adherence to the 'universal' value of precious metals. Chartalism provides the second popular answer to the genesis question as it views money as a creature of the state, which also implies an answer for the validity question as the state will always have to ensure the purchasing power of its money, with or without gold backing. For Brodbeck however, both questions, and the traditional answers, obscure, or even conceal, a more central question: a philosophical inquiry into

money as a social institution and the role that our intersubjective awareness and cognitive processes play in it (Brodbeck and Graupe, 2017, p. 9).

His two questions about genesis and validity reflect the two readings of the question “Where does money come from?” introduced at the beginning of the previous chapter. And with the premise of social constructivism, his third question becomes a linguistic, psychological or behavioural one. Hence, asking about money as a social institution here takes on the form of an ontological inquiry into “What is the nature of money?” (compare Papadopoulos, 2015b, p. 51). This question then becomes the background against which all other questions and most of the answers presented in the previous chapter can be situated. It also renders many of those answers unsatisfactory, particularly when recognising the varied forms of ‘money’, both those that are unrelated to any material backing, and those redeemable in gold with no relation to the state and its powers. In this sense, a institutional theory of money would be not only a third, but a unifying concept (Proctor, 2012, pp. 24–25) from which the other theories can assume their practical or historical place without having to compete for universal truth.²²

Institutionalism has been a school of thought in economics since the early 20th century. However, despite this long history, the word has not fully shed its double lexicographic meaning, both in everyday and in expert use. On the one hand, which also reflects its use in everyday parlance, an ‘institution’ refers to an “organisation for a religious, educational, professional, or social purpose”, whereas in the second, related but broader and less tangible meaning, it describes “an established law or practice” (Oxford Dictionary, 2017). This ambiguity can also be found in the usage of the descriptor ‘institutional’ in theories of money that emerge particularly towards the end of the 20th century. This ambiguity introduces such a broad meaning to the idea of institutionalism that it can even be seen as such a self-evident and obvious framing, particularly in economics, that the distinction between institutional

²² Other such proposals for more internally coherent and generally applicable theories that are here not discussed include for example “Money as Accounting” (Rossi, 2007) or “Money as Information” (Dodd, 1994).

economics and any other form of economics would seem futile (Hamilton, 1962).

Thus, it is not surprising that precursors or implicit institutional theories can be traced back to many of the authors presented in Chapters 1 and 2 without them necessarily having described themselves or their theories as institutional. Economic historian Dudley Dillard describes those lineages in “Money as an Institution of Capitalism” (Dillard, 1987), and specifies that institutional theories of money do not simply see money as a neutral and negligible numeraire, but a relevant “strategic factor” that is shaped by rules and conversely also impacts on the complex of rules that make up other institutions. Dillard argued that since Adam Smith there has been a “fault” line in economics between those who want to eliminate and relegate ‘money’ behind the veil of neutrality on “the great wheel of circulation” (Dillard, 1987, p. 1644), and those, starting with Thorstein Veblen (1857 - 1929), who challenge that view (Dillard, 1987, p. 1628). With this second institutional position, ‘money’ is taken seriously for economic thought and modelling, a position then elaborated on by Wesley Mitchell (1874-1948) (Dillard, 1987, p. 1629) and Minsky (Dillard, 1987, p. 1642). Along with those authors Dillard also places Marx and Keynes into the lineage of institutional monetary economists (Dillard, 1980). However, in quoting Minsky saying that “Monetary theory must be institutional economics” (Dillard, 1987, p. 1645) the self-evident nature of ‘money as an institution’ is stated as something so obvious that it does not seem to require further attention in ontological terms.

This can be said in particular about the elements of the institutional thought in Keynes and from thereon in neo-chartalist schools where “money was originally a social institution, although it had subsequently become a government one” (Capie *et al.*, 2003, p. 13). This notion has also been present in the writings of Andre Orléan, Michel Aglietta and their colleagues in the French speaking world for more than 20 years (see Blanc *et al.*, 2013; Fare, de Freitas and Meyer, 2015, p. 7), however their reception in English speaking countries, and consequently within broad academia in general, has been limited as only very few of their articles have been translated. Orléan’s

award winning book “The Empire of Value”, originally written in 2011, is the only monograph that became available in English in 2014 (Orléan and Debevoise, 2014). Since at least 1992 Orléan has been describing money and finance as institutional phenomena in the context of state power (Orléan, 1992) with a special and broader interest in how such institutions come to be and can undergo change (Boyer and Orléan, 1993). Institutions to him are the “social force” that explains how behavioural dispositions, like our usage of money, come about, while “Common sense suggests that it is a matter of suspension of our faculty for engaging in individual critical thinking: we follow the monetary rule out of habit, confidence, or faith [...]” (Orléan, 1992, p. 114)

With reference to these writings by Orléan, Italian economist Luca Fantacci asserts that: “Money is not a thing, but an institution, an agreement within a community” (Fantacci, 2005, p. 48) - echoing the working definition of complementary currency scholar Bernard Lietaer: “Money is an agreement within a community to use something as a means of payment” (Lietaer, 2002, p. 40) - which carries the ontological idea of money being the result of a social process and not only an element therein. But Fantacci proceeds by positing state power as the facilitator of this social process because “[money] has to have an institutional sanction within a political context, such as a law establishing the relationship between unit of account and weight of pure metal, or a market in which they can be exchanged.” (Fantacci, 2005, p. 10) This is also reflected in the seminal legal treatise on ‘money’ already cited before in which the “institutional theory of money” is discussed as the modern third grand theory after metalism and chartalism (Proctor, 2012, pp. 25–26). But again there is a practical bias towards state legislation native to the law faculty as it concludes that ‘money’ is only that which “is originated and managed by a central bank in a manner that preserves its availability, functionality, and purchasing power.” (Proctor, 2012, p. 27)

Towards the end of the 20th century institutionalist theory advanced in a way that also helped to leave behind this limitation observed in traditional institutionalism in which ‘money’ is too easily presented as just another institution provided by the state. From the 1970s lines of inquiry that were

focused on rules and norms that govern individual behaviour started to be called 'new institutional economics' (Phillips, Lawrence and Hardy, 2004, p. 637). Advances in computing power and the ensuing opportunities to model economic behaviour have contributed to the increasing popularity and multidisciplinary attention to this 'new institutionalism'. This extended from the economic disciplines into schools of thought in sociology that took a similar analytical interest in the emergence and interaction of different social constellations (Hodgson, 2000). In this new or neo-institutionalism the ambiguity of what an institution is was to a large degree resolved as the focus was no longer on the static organisation but the process that makes such organisation (or any other structure) possible (Hollingsworth, 2011, p. 602) and the focus of institutional research was not the organisation itself but "the rules of the game in a society or more formally [...] the humanly devised constraints that shape human interaction." (North, 1990, p. 3)

These constraints have been conceptualised and described by various authors with a number of terms such as rules, norms, permissions, conventions, codes, traditions, strategies, scripts etc. often with overlapping and conflicting definitions of this terminology (reviewed in Crawford and Ostrom, 1995, p. 589). However, at the heart of all these ways of describing an institution lies the essentially social constructivist assumption that the word refers to the collective effects of social interactions and intentional acts that establish behavioural constraints, explicitly or implicitly. For the philosophical underpinnings of neo-institutional thought John Searle and his concept of 'social facts' is often referenced (Hodgson, 2006; Roversi, 2014), also in regards to 'money as an institution' (see for example Suzuki, 2001; Ingham, 2004; Nenovsky, 2009; Gómez, 2012; Brodbeck, 2013a; Ganssmann, 2013; Fare, de Freitas and Meyer, 2015; Martignoni, 2015; Papadopoulos, 2015a; Blanc, 2017). Curiously, 'money' was, next to 'government' and 'baseball', one of the examples Searle often used to illustrate his ideas. As his theories are given as foundational references both in the literature of institutionalism and monetary theory, the following will provide a brief overview of his theories and a brief critique of how they were found to be applied by different monetary authors.

When Searle wrote his first book on the matter, “The Construction of Social Reality” (Searle, 1996) he had not been aware of the links and relevance it would have for the neo-institutional thinking in economics. But as he admits in a later edition, when he looked into it, he became aware of, as he put it, the “uncertainty of what exactly an institution is” in the economic literature (Searle, 2005, p. 1). For Searle institutions are systems that are capable of enabling what he calls ‘institutional facts’: ideas that would not exist if it was not for human interactions (Searle, 2005, p. 21), as opposed to ‘brute facts’ (Searle, 1996, p. 2) which, in line with the notion of critical realism expressed earlier, acknowledge that some things exist regardless of us perceiving or describing them: “Mountains, molecules, and tectonic plates, for example, exist and would exist if there had never been any humans or animals.” (Searle, 2005, p. 4)

Institutional facts on the other hand are created by what Searle calls “collective intentionality”, which in turn relies on language to bring together the assumptions and perceptions of individuals to ascribe meaning to an object in the form of “X counts as Y in context C” (Searle, 1996, p. 28). To make X ‘count’ rests on the setting of norms and conventions (Searle, 2005, p. 10), which in turn provides the conceptual and operational alignment of his theory to the neo-institutionalism found in economics. By their collective and construed nature ‘institutional facts’ are ‘social’ and ‘observer relative’, as they require humans to perceive and express them. And they are incremental (Searle, 2005, p. 9) or interlocking (Searle, 2006, p. 18), meaning that one institutional fact might rely on previous such facts to exist. For example, the ‘institutional fact’ of marriage depends on the more basic facts of contracts, promises, the language they are uttered in (Searle, 2005, p. 8) and, ultimately, language per se as the most basic and necessary condition for all other institutional phenomena (Searle, 1996, pp. 72–75).

Searle refers to ‘money’ as an institution and continually illustrates the development of his theories with it: “In order that this piece of paper should be a five dollar bill, for example, there has to be the human institution of money” (Searle, 1996, p. 2) or “in order that the concept of “money” applies to the stuff

in my pocket, it has to be the sort of thing that people believe is money. If everybody stops believing it is money, it ceases to function as money, and eventually ceases to be money” (Searle, 1996, p. 32). There are around 70 other passages in his 1995 book which use this example. In his later writings, the examples he gives help to highlight how his theory is related to the crude distinctions of Money and money introduced in the previous chapter. But a closer look at how Searle does this also highlights his conceptual limitations in regards to the understanding of contemporary money. A section from his 2005 paper “What is an Institution?” states:

“the fact that a certain object is money is observer relative; money is created as such by the attitudes of observers and participants in the institution of money. But those attitudes are not themselves observer relative; they are observer independent. I think this thing in front of me is a 20 dollar bill, and, if somebody else thinks that I do not think that, he or she is just mistaken. My attitude is observer independent, but the reality created by a large number of people like me having such attitudes, depends on those attitudes and is therefore observer dependent. In investigating institutional reality, we are investigating observer dependent phenomena.” (Searle, 2005, pp. 3–4)

This description points to two related issues in regards to the framing of money and Money. One is that his description poses the question how the attitude towards a piece of paper in his hand is first formed. The universality of social constructivism as it applies to phenomena outside of us but also to those concepts in our minds leaves this part of Searle’s theory unsatisfactory for a theory that can describe both Money and money and the dialectic relationship between the two. The second issue is how Searle took as his departure point a physical representation of money: the bills in his hands or pockets. While his formula “X counts as Y” in general does not necessarily only apply to a material X. Sometime between 1995 and 2005 Searle seemed to have understood the need to disentangle his concept of ‘money’ from physical ‘brute facts’. It can here only be speculated whether monetary reform evangelists in attendance at his lectures or simply the changing realities of everyday payments accounted for the change in this thinking. But later in the paper cited above he writes:

“The paradox of my account is that money was my favorite example of the ‘X counts as Y’ formula, but I was operating on the

assumption that currency [as in US Dollar notes and coins] was somehow or other essential to the existence of money. Further reflection makes it clear to me that it is not. You can easily imagine a society that has money without having any currency at all. [...] Money is typically redeemable in cash, in the form of currency, but currency is not essential to the existence or functioning of money.” (Searle, 2005, p. 16)

Consequently he cites ideas of Barry Smith and expands his theory to include “what [Berry] calls ‘free-standing Y terms’, where you can have a status function [as in something counting as something else in a social context], but without any physical object on which the status function is imposed (Searle, 2005, p. 15).

This conceptual extension is further explored and illustrated in his later book “Making the Social World - The Structure of Human Civilization” (Searle, 2010). Here he calls this new version of institutional facts a “fallout” from other institutional facts because now no intentionality or deontology is imbued onto an object when those facts come to be. He gives various examples for this, starting with statistical findings about left and right handed pitchers in baseball. These observations are facts and they are dependent on observers, but, different from other institutional facts, they are not required or construed by the rules of baseball and thus emerge without human intention (Searle, 2010, p. 117). This example seems to match well what he describes as a “systemic fallout”, or an unintended consequence. However, he later returns to the example of ‘money’, this time not the dollar bill but the description of how money in its dominant form is created when a banker extends an electronic loan to a client (Searle, 2010, p. 120). But he makes sense of his new realisations about ‘money’ being possible without any material correlate (or what he had identified as cash or currency before) by relegating this kind of money to a mere ‘fallout’ as well. His explanation is that the creation of money was not in the bank’s intention. “It is trying to loan Jones some money, not to increase the money supply.” (Searle, 2010, p. 120)

This argument seems too simplistic and brings the concept of ‘fallouts’ in regards to money into question. Firstly, the intention of most banks would ultimately not be the extension of loans either, but the profit that a larger loan

portfolio will provide. Furthermore, since extended bank balance sheets are today equivalent with an increased money supply, the intentionality of the banker can be summarised as 'making money'. This relationship between making money for the bank (profit) and making money for general circulation (money supply) are determined by laws, regulations and popular sufferance. What Searle fails to explain is how 'money' needs to be seen as an institution as a whole, not just the particular 'institutional fact' that turns a piece of paper or metal into money. Institutional theory needs to apply to all its practical forms, and all its socially construed levels, including Money the concept.²³

Regardless of those shortcomings, many monetary theorists have referred to Searle's concept of 'social facts', 'institutional facts' and 'collective intentionality' in their own portrayals of 'money as an institution' (see for example Suzuki, 2001; Ingham, 2004; Ganssmann, 2013; Sgambati, 2013; Brooks, 2015; Papadopoulos, 2015b). In those there seem to be two non-exclusive ways in which the inconsistencies mentioned above do not appear as a problem for the respective authors or are resolved in light of the authors' own presuppositions. The more obvious way is when the authors themselves are captivated by the physicality of some forms of money and can follow Searle in his bias.

The second condition under which Searle's philosophy seems to be an unproblematic theoretic foundation is the chartalists' starting point that money is adherent to the power of the state. Money is therefore seen as a pure virtual accounting unit that may or may not be 'imprinted' onto a physical medium of exchange, but in both cases the chain of interlocking institutional facts that underlie the value that those units convey resolves to the power of the state. The analysis here highlights how the attitudes and concepts of individuals in regards to money, which here were found not be coherently explained in Searle's theory, are disregarded by these theorists. For the chartalist, those elements of an institutional ontology are outsourced to the political sciences and sociology. Also since there is always a state that can

²³ Other authors have found that same inconsistency of Searle's para-institutional concept when applied to other institutions (Roversi, 2014).

guarantee the value of money, institutional monetary theory does not have to cover that ground.

An example of the first, physical bias only, is Hidenori Suzuki, who in his PhD thesis explored the way in which normative notions of value relate to markets. The empirical elements of his research do not require a more comprehensive monetary theory and, being intrigued by phenomena like credit cards (which he often refers to), he applies a realist stance to money in which its physical manifestations are given primacy (Suzuki, 2004, pp. 9–12) and, in literal reference to Searle, counts them as ‘brute facts’ (Suzuki, 2004, p. 33). A combination of both, the fixation on physical forms of money and a chartalist disposition can be observed in the PhD theses of Stefano Sgambati (2013) and Georgios Papadopoulos (2015).

Sgambati follows the development of money from antiquity until today, trying to understand its historical changes, by tracing various epistemological standpoints and philosophical concepts. He concludes that it is the tradition of *nomisma* first found in Aristotle that is still valid today: “That is to say, we can only understand money if we consider its phenomenon in its intrinsic relatedness with the currency, for without the currency money cannot exist.” (Sgambati, 2013, p. 175) In later publications he questions the theories put forward in the chartalist tradition, but only when it comes to their relevance for the practical issues observed in a burgeoning financial sector and the power that shareholders hold over governments and their subjects (Sgambati, 2017). Papadopoulos clearly subscribes to both an institutionalist and chartalist outlook (Papadopoulos, 2015b, p. 102) and also refers to Searle throughout his thesis (see for examples from Papadopoulos, 2015b, p. 35). Yet when it comes to physical money he frames those as extra-institutional as his analysis “is moving away from the institutional structure of money and focuses on the objects that instantiate money, or currency, but also on the different technological devices that we use in our monetary transactions” (Papadopoulos, 2015b, p. 12). Even with this contradictory notion, he keeps referencing Searle.

Finally, all of those three authors take reference to one of the most significant monetary theorist of the new millenium. With his seminal 1996 paper “Money is a Social Relation” and a comprehensive book in 2004 “The Nature of Money: New Directions in Political Economy” Geoffrey Ingham made significant inroads towards what elsewhere was called for as “An alternative understanding of money not as a thing but as a social technology.” (Martin, 2014, p. 254) For Ingham, ‘money’ is the result of societal processes “in the sense that it cannot be adequately conceptualised other than as the emergent property of a configuration (or "structure") of social relations.” (Ingham, 1996, p. 527) To conceptualise this he repeatedly draws on the ideas found in Searle, but even in his later publications he only ever takes them from their initial elaboration from 1995. In so doing he proposes to fill the gap that the deductive and empiricist methodologies in economics left: a coherent ontology of money (Ingham, 1996, p. 509).

Describing ‘money’ as a social relation allows Ingham to follow the footsteps of Innes who stated that all money is some form of credit. In reference to Simmel he can explicitly extend this definition to include all forms of money which are related to a commodity such as precious metal: “metallic money is also a promise to pay and [...] it differs from the cheque only with respect to the size of the group which vouches for its being accepted.” (Simmel cited in Ingham, 1996, p. 526) With this, Ingham clearly lies outside of the group of authors that refer to Searle because of their common focus on the material phenomena that take on a new meaning as social facts: For him, money is not a thing. Moreover, Ingham has fervently defended this position, for example against Marxist economist Costas Lapavitsas in a published debate in the *Economy and Society* journal in 2005, where Lapavitsas maintains: “Much of the mystery and complexity of money arises because it is simultaneously a social relation [money of account] and a thing [monetary medium].” (Lapavitsas, 2005, p. 401)

Thus Ingham anchors himself firmly with the other faction of theorists who rely on Searle’s focus on the normative power of the state:

“[Money] is a social relation based upon definite and particular social structural conditions of existence involving, among other

things, an institutionalised banking practice and constitutional legitimacy of the political authority in which the promises of banks and the states to pay gradually became currency.” (Ingham, 1996, p. 523)

However, “Ingham insists that not all credit is money” (Dodd 2014, p108). Ingham does not entirely disregard credit systems that do not spring, in one way or another, from the authority of the state, but does not count phenomena like LETS (Local Exchange Trading Systems) and timebanks²⁴ as ‘money’ and thus marginalises their importance, both in practice and for theory: “unless a state loses power and legitimacy, these diverse media [of exchange] will remain near the bottom of the hierarchy of media to be found in all societies.” (Ingham, 2006, pp. 273–274)

Different from this, for authors like Nigel Dodd, who are interested in how money is changing today and what it could become (Dodd, 2014, pp. 331–333), the argument of macroeconomic irrelevance has no place in the aspiration of finding a theory that encompasses all monetary phenomena, ontologically and practically. This includes, but is not limited to, what was above called ‘money as we know it’ in its various contemporary forms, from cash to electronic bank balances, but also LETS, timebanks and the so called virtual currencies like Bitcoin. Dodd has pointed to this theoretical gap for many years, called for ‘greater conceptual clarity’ (Dodd, 2007, p. 274) and attempted to provide a solution with his early theory of ‘money as information’ (Dodd, 1994).

In his recent book, Dodd gives a strong exposee of the innate diversity that money possesses today, but instead of elaborating on his previous theory further he discusses Simmel’s idea of ‘perfect money’ as a purely conceptual notion, that will never be found in any one of its implementations (Dodd, 2014, pp. 317–320). In this sense “perfect money” is akin to the concept of Money that was proposed in the previous chapter. The aim of this thesis however is to provide a theory of the ‘nature of money’ that can apply equally to the concept of Money, and to the multitude of real existing phenomena here called money and currencies as the instantiations of Money. In this latter

²⁴ These forms of complementary currencies will be discussed in Chapter 5.

regard any theory must also be applicable to all material as well as non-material implementations, while neither disregarding the physical manifestations nor giving them primacy. In line with Dodd's ambition, all the unconventional forms of money referred to as 'complementary currencies', including timebanks, LETS, (so called) Local Currencies, Bitcoin and Airmiles must have, at least on the theoretical level, equal importance with the Dollar, Euro and Yen (Hallsmith and Lietaer, 2011). For this, the next two sections will supplement the notion of 'money as an institution', as found in the literature, by introducing the concept of 'discursive institutionalism' in order to explicitly enable a conceptual and practical engagement with all forms of 'money' and 'Money'. Finally, to enable a more coherent way to communicate about all these monetary phenomena, the existing and the conceptual, an extension of the distinction between 'money' and 'Money' by the terms 'currency' and 'Currency' will be introduced.

3.2 Discursive institutionalism

The explicit integration of concepts of discourse into institutional theory was found in the writings of Vivien Schmidt (2008) and a paper by Nelson Phillips et al. (2004), without reference to each other. In fact only Schmidt has pursued the idea in following publications. The development of the concept of discursive institutionalism as applied in this thesis will be developed here from her writings with reference to Phillips et al. towards the end of this section.

Looking across from Boston at the ever changing landscape of the political institutions in the European Union, political scientist Vivien Schmidt was left with the observation that neo-institutionalism had, so far, been successful with the description of what and how institutions are, but without a comprehensive and applicable theory of how institutions change (Schmidt, 2010). Particularly when they are seen to be created by the interactions of many individuals that, in one way or another, all bring their particular sets of preferences and are interlaced with a multitude of other structures, all institutions are in constant flux. In the three contemporary strands of neo-institutionalism - rational choice institutionalism, historical institutionalism and sociological institutionalism (Hall

and Taylor, 1996) - she found an increasing interest in the adaptivity of institutions to changing environmental or contextual conditions.

Institutions were first of all described as static constructs, and the change of conditions that would require reform or demise, were always introduced as exogenous factors to which institutions adapt (Schmidt, 2010, p. 5). However, if institutions are social constructs that determine the behaviour of (groups of) individuals, they need to be seen as a summative reflection of those same behaviours. In fact no institutional arrangement in history has been absolute enough to cement all behaviour of all individuals permanently. An endogenous faculty of change resides with the individuals that can lead to institutional change from within instead of being determined by exogenous conditions. All three established institutionalisms had their own 'theory of change', but none was deemed satisfactory to account for the agentic potential of individuals who wanted to change a given institution despite or even against the conventions and rules they find themselves subjected to. Historical institutionalism described the changes of institutions over time and saw patterns and path dependencies. Rational choice institutionalism looked at agents that establish their behaviour according to their set of preferences and how the incentives provided by an institution matched those preferences. The sociological institutionalism, which at the time of the formation of her theory, Schmidt saw as having the most adherents, incorporated not only institutional rules concerning the individual behaviour of those same agents, but also their sense of appropriateness according to cultural factors from outside the studied institution (Schmidt, 2010, p. 2).

To those three Schmidt proposed to add a fourth neo-institutional way of conceptualising and studying institutions, 'discursive institutionalism', as "a descriptive language or analytical framework [...] for which theories can be developed and tested" (2002, p. 8); not to make the others obsolete, but to expand the methodological toolkit of the political scientist (Schmidt, 2012, p. 113). Making use of the concept of 'discourse' she expected to step into a 'minefield' of established and potentially conflicting theories, so she has always been clear that the term is rather an "umbrella concept for [all existing

institutional] approaches that concern themselves with the substantive content of ideas and the interactive processes of discourse in the institutional context.” (Schmidt, 2015, p. 172) As ideas change, so do behaviours and with them institutions. Discourse then

“encompasses not only the substantive content of ideas but also the interactive processes by which ideas are conveyed. Discourse is not just ideas or “text” (what is said) but also context (where, when, how, and why it was said). The term refers not only to structure (what is said, or where and how) but also to agency (who said what to whom)” (Schmidt, 2008, p. 305).

Bringing this understanding of ‘discourse’ close to the social constructivist ideas explored above she later explicitly bases her ontological framework on ‘critical realism’ and Wittgenstein (2012, p. 96) and also presents the ‘institutional facts’ of Searle to exemplify the process by which discourse can be seen to lead to institutions (2012, p. 92). She even mentions Ingham’s theory of money as a social construct as an illustration of this process (2012, p. 97). As to the question why these links have not been made explicit before, she maintains that “most scholars who take ideas and discourse seriously intuitively assume that agents acting within institutions are simultaneously structure and construct (agency), but they rarely articulate this, in particular those whose work is largely empirical.” (2012, p. 92)

In this way, her approach is commensurable with the analytical frame of this thesis thus far, and the definition of an institution given by Crawford and Ostrom (2005) that will be introduced in the following. Discursive institutionalism also helps to resolve a contrast that some empirical authors grappled with in the application of the definitions of Crawford and Ostrom, namely the difference between the concept of an institution and its constituent elements: “Institutional statements are ‘linguistic’ statements, meaning that they are actually spoken or written [...]. The concept of institutions, in contrast, does not involve a linguistic component, which suggests a more conceptual or abstract definition.” (Basurto *et al.*, 2010, p. 2)

With ‘discursive institutionalism’ this perceived difference between ‘institutional statements’ and ‘institutions’ only appears as a matter of perspective as both

are now “discursive practices” (Schmidt, 2015, p. 174). By drawing on the idea of ‘performative utterances’ by constructivist philosopher John Austin institutional statements can be seen as what John Searle calls ‘performative declarations’: “you make something the case by explicitly saying it is the case” (Searle, 2010, p. 12). With this, institutions themselves do not only depend on language but become just as much discursive in nature, and open to change, as the statements they consist of. “Discourse as an interactive process is what enables agents to consciously change institutions, because the deliberative nature of discourse allows them to have ideas of and talk about institutions as objects at a distance, and to dissociate themselves from them to critique them even as they continue to use them.” (Schmidt, 2015 p. 176)

The concept of discursive institutionalism will here be applied to the concept of Money as well as to its instantiations. It is in particular the practices of complementary currencies that manifest institutional change, if only in marginal ways when compared to the dominance of conventional money. As Schmidt’s point of departure is large political institutions, her description of institutions and institutional change still bears some of the above discussed ambiguity of how the theory of institutionalism is applied to both organisations and abstract systems as institutions. For the analysis of Money and its instantiations a broader meaning is here adhered to. The organisations that play a role in the practice and discourse of Money, for example central banks, financial regulators, commercial banks, financial service providers and the issuers of complementary currencies are seen as elements of the institutional systems of ‘money’.

Similarly, the framing of discourse as presented by Schmidt also requires a clearer reference as to what is meant by discourse and an extension as to the relevance of the power and power relations in all aspects of discourses and institutions. Schmidt does refer to Foucault, amongst other critical and power alert authors, in most of her publications (Schmidt, 2008, 2012, 2014, 2015) and acknowledges that power has an influence on the discursive influence that communications from some actors have over others (Schmidt 2015, p. 184). Although surprisingly she does not problematise this factor in regard to

how it might guide or even hinder institutional change, particularly in the case that innovations are generally desirable but fundamentally incompatible with the dominant institutional practices - or even in conflict with the particular interests of incumbent actors in a given institutional arrangement.²⁵ With the introduction of the analytical framework of critical discourse analysis in the following chapter, both the meaning of discourse per se and the importance of power therein will be specified for the analytical part of this thesis.

It is in this regard that the other publication about discourse and institutions mentioned above is relevant, even if its authors Phillips, Lawrence and Hardy do not use the term 'discursive institutionalism' explicitly. Their ambition, very close to Schmidt's espoused motivations, was to provide a theory that "highlights the role of texts and discourse in processes of institutionalization"(Phillips, Lawrence and Hardy, 2004, p. 646). Their epistemological framework based on critical realism is commensurable with that of Schmidt and equally mindful of and interested in the actors' agency to affect institutional change. Institutions to them are "never completely cohesive and never able to determine social reality totally. Instead, a substantial space exists within which agents can act self-interestedly, working toward discursive change in ways that privilege their interests and goals" (Phillips, Lawrence and Hardy, 2004, p. 637). Yet no explicit references between this and Schmidt's work can be found. This might be due to both disciplinary boundaries (Schmidt being a political scientist and Phillips et al. being based at Business Schools) and geographical divisions (US vs UK/Commonwealth). However, instead of coming from institutional theory and incorporating discursive concepts, Phillips et al. move the other way around, from discourse theory to institutionalization: "institutionalization occurs as actors interact and come to accept shared definitions of reality, and it is through linguistic processes that definitions of reality are constituted. [...] We argue that discourse analysis provides a coherent framework for the investigation of institutionalization." (Phillips, Lawrence and Hardy, 2004, p. 635) With this

²⁵ A publication of hers and Martin Carstensen's, that in her 2015 article was mentioned as forthcoming in the Journal of European Public Policy, might go on to integrate Critical Discourse Analysis into her analytical framework. At least the title seems to indicate that: "Power through, over and in ideas: Conceptualizing ideational power in discursive institutionalism."

framework they provide an additional conceptual link between the different analytical elements that the methodology of this thesis will draw on.

We will come back to that when those methodologies have been fully introduced (Chapter 4). For now, the conceptual ideas and terminological differentiation introduced so far will be synthesised into an analytical framework that the remainder of this thesis will rely on.

3.3 In a manner of speaking: Money and currencies

In this last stage of the development of the analytical framework, the diversity of complementary currencies found today, and historically, will be explicitly included in the concept of a 'discursive institution' and a terminology is proposed that allows for clarity and openness when talking about 'money'. This counts for both Money - the concept - and money - the instantiation of that concept. However, to also explicitly include all the different complementary currencies into this framework, the term 'currency' will be introduced as a third terminological category in between the spaces of Money and money. All three spaces are here deemed to be similarly socially constructed phenomena. The category money was presented as a relatively homogeneous space because in any specific context or discourse only one type of money, be it called the Euro, Dollar, Pound is deemed 'conventional' and also because all these are today relatively similar across most constituencies. Money (the concept) and 'currency' on the other hand are intrinsically multiple in nature. We have already seen in how many ways the concept of Money is represented in the literature, despite or because of the way the difference between Money and money is not often observed. Furthermore, as we will see in Chapter 5, the practice of complementary currencies is even more diverse. With the introduction of the category 'currency' that will encompass both complementary currencies and conventional money, this diversity will become an integral part of the model of what is here described as a discursive institution.

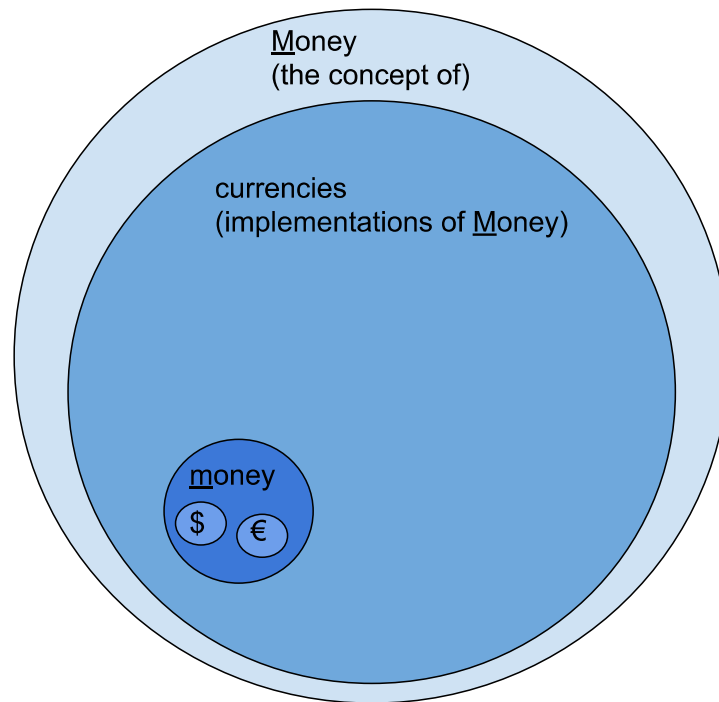


Fig. 4: Introduction of the term 'currencies' to previous distinction

However, as briefly mentioned above, the idea of diversity over unicity is not a novel concept even in the realm of conventional money (Blanc *et al.*, 2013). Apart from the economically oriented proposals by F.A. Hayek, the sociological contributions of Karl Polanyi (1957) and Viviana Zelizer (2017) have been widely cited and discussed across heterodox monetary theory as well as in the literature on complementary currencies (see Degens, 2016). Polanyi differentiates the social processes that in economics are often simplified as 'markets' as not only following a strictly transactional logic but also determined by the ideas of redistribution - a faculty of the state - and reciprocity which typically adheres to theories of community. In all those he sees different media of exchange as the facilitator and views what is here called conventional money as a modern variant integrating different functions that were previously fulfilled separately by 'primitive money'. This distinction has been built on to describe complementary currencies as 'special purpose money' while conventional money appears as a 'general purpose' (Blanc, 2011, p. 16; Seyfang and Longhurst, 2013, p. 67; Degens, 2016, p. 25).

The idea that our transactions are not uniform, and that different purposes of interactions also predicate different kinds of ‘money’, particularly in a socially constructed sense, is also at the heart of Zelizer’s widely revered book from 1997 “The Social Meaning of Money” (2017). In her empirical research on the practice of earmarking sums of money in household budgeting, she explicitly builds on Polanyi’s writings (2017, p. 21) and argues that the assignment of purposes, even to the same kind of ‘general purpose’ money, turns money into different “domestic currencies” (2017, p. 42). In so doing she does not only break open conventional money, but also paves the way to recognise other complementary exchange systems as monetary (Dodd, 2005a, p. 400; Mooney and Sifaki, 2017, p. 8). This runs contrary to the equally valid observation that money and the processes of monetization are homogenizing agents and bring more and more diverse aspects of social life under their transactional logic (Eisenstein, 2007, p. 243), or what Simmel described as the destroyer of shape (Simmel, 1995 in Degens, 2016, p. 26). Zelizer shows that it is not exclusively the case that “money changes values” but also that “values change money” (Evans, 2009, p. 1038). In her later work Zelizer expands these ideas to explicitly include complementary currencies, with both earmarked money and unconventional currencies operating within social structures she describes as ‘circuits of commerce’ (Zelizer, 2004, p. 8, 2012, p. 158; Zelizer and Tilly, 2006). In this sense Zelizer provides a phenomenological continuum from different uses of the same kind of money to different complementary currencies as new “production of money” (Dodd, 2014, p. 292).²⁶

In his PhD research Alan Schussman refers to Zelizer’s concepts for his study of what he call “local currencies” (Schussman, 2007, pp. 40–43) in the USA. He uses those complementary currencies as empirical cases from which “to consider elements of social movements, institutional change, and the sociology of money.” (2007, p. 16). Coming from a background in social capital and social movements research he operated from a rather general, unformalised understanding of institutions and social-construction with no

²⁶ Dodd’s use of the term ‘money’ here elicited a quip much in line with the argument for differentiation made in this section: “The broadness of this term might be considered a bit slippery.” (Degens, 2016, p. 27)

references to the schools of thought built on here. In addition, he works on an understanding of money that is exclusively based on sociological classics like Simmel, Weber and Marx, whose ambiguities have been briefly discussed above, and then takes cues for his research on complementary currencies from Zelizer. With this, his findings can be seen as a starting point for the research in this thesis: 'money' as an institution consists of "highly routinised practices embedded in everyday life, and a powerful network of organizations that privileges a dominant mode of exchange to such an extent that alternatives seem unimaginable" (Schussman, 2005, p. 2). Yet he concludes only with saying that: "Local currency confronts both the normative, cultural, and regulatory weight of federal money" (2005, p. 15).

But this is at least one step further than most of the treatises on 'money' mentioned in the previous chapter which take little heed of the range of practices and possibilities that go beyond the more or less monolithic conventional money licensed by state authority (compare Godschalk, 1986). Michael North, in his account of money through the ages, only reports on bills of exchange throughout the Middle Ages (North, 1994). Glyn Davis gives a lengthy account of barter and countertrade arrangements in the 20th century (1994, p.18). Keynes mentions the local US Stamp Scrip currencies in a positive light in the first half of the 20th century in his *General Theory* (Keynes, 2003). However, for most others the manifold twists and turns of conventional money seemed to provide sufficient focus for analysis.

Only with the onset of the first major financial crisis of this century did authors venture further afield again, and noticed what has always been around. Felix Martin describes the private monetary initiatives for example during the bank-strikes in Ireland in 1969 (Martin, 2014, p. 22), in post-Soviet Russia (Martin, 2014, p. 70), and in Argentina during the Peso crisis in 2001 (Martin, 2014, p. 69). Nigel Dodd repeatedly called for an integration of those 'alternative' forms of money to be recognised and integrated into the theory of money (Dodd, 2014, p. 48).

However, at least since the 1990s a growing body of work has focused on these unconventional forms of money as their prime focus of inquiry. Thomas

Greco, one of the most fervent contemporary advocates for private currencies, published his first major account of the topic in 1990 with references to historical heterodox economists such as E.C. Riegel (Greco, 1990). Then, with “The Future of Money” Bernard Lietaer (2002) firmly established the term ‘complementary currencies’ and drew a lineage from the ‘bracteates’²⁷ of the European Middle Ages to the modern grassroots initiatives of Local Exchange Trading Systems (LETS) and timebanks in the 1980s to the more recent so called Local Currencies in the US, Germany and later the UK and France. Richard Douthwaite coined and described the idea of an “Ecology of Money” (1999) as the interplay between complementary currencies and conventional money in his book by the same title. However, there always seemed to remain a conceptual gap between those alternative practices and the theory of ‘money’ which was left to the academic hegemony of economists.

For the time being, the focus on the word ‘currency’ instead of ‘money’ had communicative advantages. The latter was, and remains, shrouded by the habitual understanding induced by the everyday experiences with its conventional form. In this sense, even Hayek, whose limited empirical knowledge of unconventional, non-bank issuers of currency, argued:

“I have always found it useful to explain to students that it has been rather a misfortune that we describe money by a noun, and that it would be more helpful for the explanation of monetary phenomena if ‘money’ were an adjective describing a property which different things could possess to varying degrees. ‘Currency’ is, for this reason, more appropriate, since objects can ‘have currency’ to varying degrees and through different regions or sectors of the population. [...] It will have become clear that in the present connection it is rather more expedient to speak of ‘currencies’ than ‘monies’, not only because it is easier to use the former term in the plural [...].” (Hayek, 1990, pp. 56–58)

However, within the practice of complementary currencies, the use of the term ‘currency’ instead of ‘money’ leads to what Dodd found to be “perplexing [...]”. Although it merely reflects wider confusions about the nature of “money” as opposed to “currency” in general” (Dodd, 2005a, p. 406). On the one hand, complementary currency activists have the espoused objective to create a

²⁷ For more on that see Svensson (2013) and Lietaer (2000, p. 120)

different kind of monetary system or even “reinventing” money (Martignoni, 2012). On the other hand, they often, very deliberately, refuse to describe their innovations as ‘money’, be it only to avoid financial and tax regulations (Hart, 2001, p. 281 and my personal communications with activists in Germany).

In this situation, Dodd argues that “we need new metaphors for thinking about the monetary space as decentred, unbounded, and diffuse.” (Dodd, 2014, p. 221). As one of the most important contemporary sociologists on ‘money’ his use of terminology is instructive in regard to how difficult it is to define a consistent and commensurable terminology on this topic. As this chapter will conclude with a further development of the distinctions introduced in the previous chapter, it merits to have a closer look at Dodd’s definitions in regard to these. In his attempts to provide a clearer terminological definition, he appears to fall for an ambiguity commonly found in the way the term ‘currency’ is used in everyday and academic discourses. This concerns the synonymous use of the word by itself and the slightly more concise term ‘national currency’. In his paper “Reinventing monies in Europe” (2005b) Dodd affirms that “we need to avoid treating money *synonymous* with currency.” (see also Dodd, 2005a, p. 406, 2005b, p. 561) For that he proposes to free the word ‘money’ from its ambiguities by resigning it to Simmel’s pure concept that ‘money’ is simply an idea, a fiction “which can never empirically exist.” (Dodd, 2007, p. 275) - or what he found in Weber to be referred to as a “class concept” (Weber, 1949, in Dodd 2005b, p. 572).

This is in line with what here had been denoted as ‘Money - the concept’. However, for the second term “currency” Dodd goes on to define: “currency is legal tender within a defined geopolitical space” (Dodd 2005a, p. 394). This is akin to what was here called ‘conventional money’ as an instantiation of Money²⁸. In this sense, his conclusion “that ‘money’ [as in Simmel’s ‘idea’ or ‘fiction’ or what here is called Money] is a broader and more complex category than ‘currency’” (Dodd, 2005a, p. 393)²⁹ is also coherent with the framing of

²⁸ The clarity of Dodd’s definition here also suffers from the common misunderstandings attached to the term ‘legal tender’ which will be elucidated in Chapter 7 of this thesis.

²⁹ A position he maintained in his major book “The Social Life of Money”: “As I have already suggested, “money” is a broader category than “currency” (Dodd, 2014, p. 399)

this thesis. However, with assigning the term ‘currency’ to what is here called ‘money’ Dodd’s concept falls short on two counts. For one, the word currency, at least in formal monetary economics is unambiguously defined as “notes and coins; or cash” (McLeay, Radia and Thomas, 2014b, p. 12), which is only a fraction of the money issued under the licence of any one government. This can be seen as a form of the ‘materialist fallacy’ described earlier by which the physical manifestations of money are over emphasised and practically as well as conceptually misrepresented in regard to whole phenomena. Secondly, his terminology seems to run against the grain of common parlance. On the one hand, it would appear difficult to eliminate the word ‘money’ from layman and expert talk about the forms of ‘money’ we hold in our hands and bank accounts and refer to them only as ‘currency’. He himself cannot but help to use the word “money” in both meanings in one sentence: “All historical manifestations of money must be considered as imperfect or incomplete forms of money.” (Dodd, 2007, p. 287) On the other hand, this would preclude complementary currency practitioners and advocates from referring to their units as ‘currency’ and require them to speak of ‘complementary monies’ instead, which he failed to stringently adhere to, even in his own publications (compare Dodd, 2014, p. 14).

With the distinction in writing the word ‘money’ with a capital or small letter, the first issue had here already been taken into account. For a conceptually coherent incorporation of the word “currency” and the practice of complementary currencies into the terminology outlined in the previous chapter, it is here proposed to define ‘currency’ as any implementation of the concept of Money. As such, the conceptual space of ‘currency’ would sit in between the representations of Money - the concept, and ‘conventional money’. Accordingly, US Dollar, Pound Sterling, the Euro, etc. would all fall under the term ‘currencies’ alongside and on an conceptually equal footing with all types of complementary currencies initiatives.³⁰ All of these are

³⁰ A small selection of individual currencies will be analysed in Chapter 5. For more examples and an overview of the diversity that the term complementary currency can encompass see for example the books by Bernard Lietaer, Margrit Kennedy and John Rogers (Lietaer, 2002; Kennedy, Lietaer and Rogers, 2012) and, co-authored by myself, “People Powered Money” (CCIA, 2015h).

concrete ‘real-world’ implementations of Money (the concept), but only GBP, USD and EUR and the like are here also placed within the sub-term money.

At the time of writing of this thesis, two contributions to the relationship between conventional money and complementary currencies were published that reflect the differentiation here proposed. Jens Martignoni who had previously described both conventional money and complementary currencies as institutions in the sense introduced above (Martignoni, 2015, p. 138) distinguished three layers similar to the ones here described in his recent book about monetary alternatives (Martignoni, 2017, p. 38): “1. the money system or money order as a general and abstract term, 2. Currencies as a specific money with its own ‘constitution’ and denomination and 3. money: actual concrete concept with a specific currency”. The latter is akin to what is here called ‘conventional money’ and Martignoni goes on to highlight the erroneous identification of the first and the third layer saying “Money system or monetary order are unfortunately very often abbreviated with ‘money’. The resulting equation between the abstract and the concrete terms of money causes a further part of the mentioned confusions in discussions of money, both in practice and in science.” (Martignoni, 2017 p. 38) The second recent reference to the way the concept of Money becomes instantiated in various forms of what is here called ‘currency’ is the way in which Jérôme Blanc (2017) refers to Money as an abstract term on the one hand and concrete forms of money on the other. “Money is made concrete and usable in payments through specific forms that can vary greatly” and it would be erroneous to only appraise this diversity in its different material forms of circulating media instead of seeing forms of money as representing “social meaning” as systems of “values and norms” (Blanc, 2017, pp. 242-243).

Within the here developed terminology and its graphical representation, terms like ‘cryptocurrencies’, ‘loyalty points’ or ‘time banks’ can easily be depicted as subspaces of ‘currencies’, in parallel to ‘money’. The way they are discursively constituted as systems of rules, values and norms, as Blanc puts it, will be elaborated on in the following chapter. The much broader term ‘complementary currencies’ however would be less easy to depict distinctly, as

it equates to all of the space of 'currencies' apart from the subspace of 'money'.

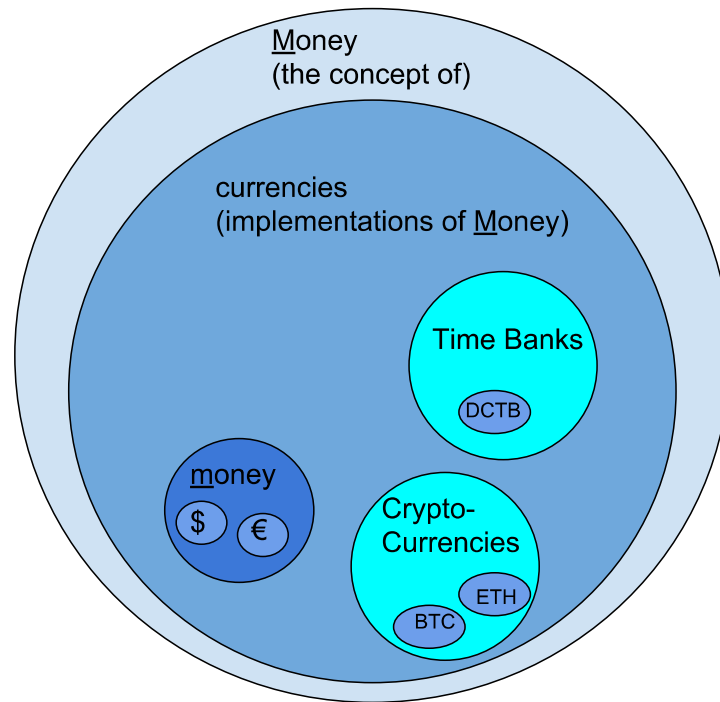


Fig. 5: Positioning complementary currencies within the previous distinction

More explicitly, the definitions here proposed are:

- 'Money', 'currencies', and 'money' are transferable units that can facilitate transactional forms of collaboration. Ontologically all three are 'discursive institutions'.
- 'Money' is the purely conceptual space that contains the limitless number of conceivable ways in which such unit systems can be devised.
- 'currencies' are the actual implementations of the concept of 'Money' that are, or were, used to transact by specific groups of agents. These implementations are designed³¹ with a specific group and specific

³¹ The term 'design' does here not only refer to the graphic and physical compositions of material media of exchange like notes and coins, but to the choices of conceptualisation and implementation of the entire currency system.

objectives in mind. This determines explicitly or implicitly, the forms of collaboration and corresponding transactions that a currency can facilitate. The way those transactions are executed - by the handing-over of physical representations of those units or by the reassignment of electromagnetic representations - does not constitute a categorical difference here, but comes down to practical design options in the initial and ongoing implementation process of a given currency.

- ‘money’ are the contemporary currencies that are devised or licensed by nation states and that most people currently use for most of their everyday transactions. To highlight the difference to Money, these are here sometimes paraphrased as ‘conventional currencies’.

For the following analytical part of this thesis, these definitions and distinctions are deemed sufficient. But in order to incorporate one particular discourse that was mentioned in the introduction, that of so called “reputation currencies” (see Botsman and Rogers, 2011, p. 219; Birch, 2014; Burrus, 2016), and to demonstrate the usefulness and elegance of this model, one further extension will briefly be introduced to this terminology. Just like monetary currencies, reputation currencies can be described as unit systems that facilitate collaboration for groups of actors. To give one example, the ‘star ratings’ on user profiles of Ebay induce confident transactions between individuals that have never met before, for the remote purchase of used goods with no statutory guarantees of their quality or condition. The only difference then, is that reputation units, like the number of stars a particular seller or buyer might have, cannot be transferred in a transaction. To complete a transaction, reputation currencies need to come in parallel with other currencies, in most cases money. For those unit systems, the term Currency, with a capital C can be added to the above model. In analogy to the Money space, the Currency space contains all conceivable unit systems that express a certain shared value for a group of agents.

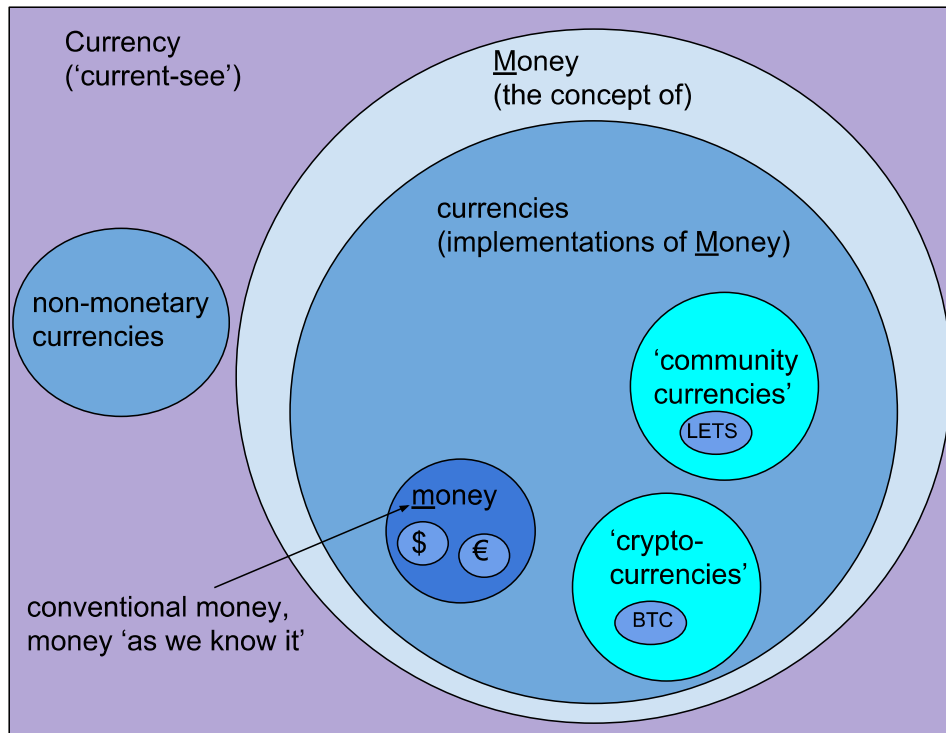


Fig. 6: Complete terminological distinction proposed in this thesis.

A group of authors called the Metacurrency Project (*Metacurrency Project*, no date), has developed a systemic value and currency model, that recognises various levels of values that can be expressed with unit systems. However, only the smallest part of those, what they call ‘tradeable wealth’ (Brock, 2015) is expressed by a currency of the kind discussed above. For all other unit systems, they still use the word ‘currency’ but paraphrase it as “current-see” which are “shared symbol systems we create to collectively shape, enable and manage large-scale flows” (Brock, 2016). The implementations of those, which would include reputation currencies as well as certification marks, social capital metrics and even education degrees, clearly fall outside the Money space in the model introduced so far. They need to be depicted in a separate ‘currency’ subspace outside the Money space, here called ‘non-monetary currencies’ (see Figure 6). Yet ontologically, the Currency space and those ‘non-monetary currencies’ can be equally coherently described as discursive institutions.

With or without that last excursion into value theory and non-monetary currencies, the merit of this new terminology is, that it does not contradict conventional concepts and ways of speaking about 'money' and 'currency', but it refines and specifies the terminology used elsewhere. Such specification requires a critical alertness to the ambiguities and opacity that have been traced in the discourses and theories of 'money' above. However, the introduction of the explicit differences here drawn and the coherence of the proposed conceptualization both invite and unburden the development and refinement of this crucial alertness. The remainder of this thesis will demonstrate how the practice of complementary currencies and prevalent discourses of conventional money can be described and analysed with this epistemological framework and its ontological foundation in discursive institutionalism.

4 Methodology - Analysing 'money' as a discursive institution

Only descriptions of the world can be true or false.
The world on its own - unaided by the describing
activities of human beings - cannot.

*Richard Rorty:
Contingency, Irony, and Solidarity, 1989*

4.1 Triangulation and transdisciplinarity

The methodological approach of this thesis considers the questions of 'what is money' from three very different angles. Amongst the different influences that shaped this research, the strongest comes from the epistemological and heuristic openness of philosophical inquiries. However, the topic does require a certain engagement with economic and organisational perspectives, especially given the fact that this research took place within the business school of the University of Cumbria. Furthermore, the strong focus on interdisciplinarity, critical social theory and social impact in the courses taught at the Institute for Leadership and Sustainability (IFLAS) strongly influenced my intellectual curiosity and shaped the final research programme of this thesis. In particular, it meant my approach to the topic of Money and currency was influenced by an awareness of both the importance of our monetary system for contemporary global challenges, and a view that the current contribution of academia to progressive monetary reform or transformation appeared negligible. Therefore, throughout the doctoral research, my hope and intention has been to generate knowledge that can provide fresh grounds for academic input into the practical future of monetary systems.

Given this context, the following three 'analysis' chapters of this thesis rely on multiple, closely related but distinct methodological approaches rather than one single disciplinary thrust. The variety of methods will be combined to form

a more textured picture than any single methodology could create given the broadness of the topic and its multifaceted and far-reaching nature. Therefore, the hypothesis of 'money as a discursive institution' will be tested in three different ways which is known as an 'triangulation' approach (Baker and Ellece, 2011, p. 153). This is deemed appropriate for complex and involved topics (Jahn, Bergmann and Keil, 2012; Savin-Baden and Major, 2013, p. 477) for which a single methodology might be prone to bias and 'tunnel-vision' effects (Wodak and Meyer, 2001, p. 30). For instance, in my masters thesis about the implicit anthropological assumptions of F.A. von Hayek, his writings were analysed in relation to different schools of thought from the disciplines of economics, political science and psychology (Bindewald, 2009). However, where triangulation can just refer to the application of different methods to the same set of data and the same or very similar research questions, the analysis in this thesis will look at three distinct datasets (complementary currency, central bank publication and law texts) with three different, but complementary, methodological approaches.

Consequently, this study represents what is increasingly referred to as 'transdisciplinary research'. This idea is related to the better known concept of 'interdisciplinarity' as both combine the viewpoints, heuristics and methods from different disciplines. However, while no common definition of 'transdisciplinarity' has yet emerged (Jahn, Bergmann and Keil, 2012, p. 1) many scholars use the term to refer to a larger scientific programme that is not only concerned with the production of knowledge, but the scientific contribution to solutions of complex societal problems (Pohl and Hirsch Hadorn, 2007, p. vii). Therefore, transdisciplinarity does not only combine insights from different disciplines, but creates and synthesises them into novel and innovative research programmes that in themselves cannot be situated within one of the employed original disciplines (Aboelela *et al.*, 2007, p. 339). According to Pohl and Hirsch Hadorn (2007), when the very nature of a problem is under dispute, transdisciplinarity helps to clarify the underlying questions and the systemic relevance, the appropriate norms and objectives to appraise the progress of a research programme and the transformational implementation pathways that stem from the findings. Transdisciplinarity is

hence applied in order to “a) grasp the complexity of problems, b) take into account the diversity of life-world and scientific perceptions of problems, c) link abstract and case-specific knowledge, and d) develop knowledge and practices that promote what is perceived to be the common good” (Hirsch Hadorn *et al.*, 2008, p. 30). The questions about the nature of ‘money’ asked in this thesis require a no less integrative methodological approach and the data and analytical engagement of the following three chapters fill the ambition of transdisciplinary research to the degree that the format and scope of a doctoral dissertation allows for.

Cultural historical activity theory (Engeström, 2003) will be employed in Chapter 5 to elucidate the diversity and discursive nature of the instantiations of Money that were introduced under the term ‘complementary currencies’ earlier. The ‘grammar of institutions’ methodology (Crawford and Ostrom, 1995), a specific way to understand and analyse institutions, will be the principal methodology in Chapter 6. It will be applied to a set of publications by the Bank of England in order to ascertain what the ‘official’ description or definition of ‘money’ by such an eminent actor is. Finally, in Chapter 7, a general legal analysis of the laws and statutes of the United States will be conducted to see what ‘the law’ has to say on the matter of ‘money’. Finally, yet foremost, the stance and perspective of critical discourse analysis, which in itself calls for a transdisciplinary approach (Fairclough, 2010, p. 4), provides the common paradigm for all three methodological approaches which makes ‘critical reading’ the smallest common methodological denominator that this thesis applies to three diverse, but related, datasets. Here the attribute ‘critical’ relates to all three ambitions that the word carries. Firstly, a conventional meaning of careful inquisitive questioning of literature, traditional views and theories. Secondly, an active awareness of the inescapable ideological bias that any discourse bears and the role that power and privilege play in disguising those biases, an idea that will be illustrated in the next section. And last, an acute sense of the urgency of the social and environmental context, as described in the introduction, that the topic under research here is undeniably part of - both in facilitating current crises but also in creating the conditions for systemic change. In light of the findings from the

analytical chapters, the methodologies here described will be critically appraised in Chapter 8 (Implications).

4.2 Critical discourse analysis

The analytical framework of discursive institutionalism applies the emergence, maintenance and dynamism of an institution, as a system that structures human behaviour, to both the concept of Money and currencies as its implementations. The discursive element of this framework relates to the foundation of institutions in language. Like language, Money and currencies are not static but are malleable or in flux; they are collectively construed phenomena and are contextually contingent. This is more easily grasped in relation to Money the concept than in relation to, for example, a currency like Pound Sterling that has material correlates such as notes and coins. While the institutional framing provides answers to the question of what 'money' is, a discursive approach to institutions is aimed at elucidating 'how' it is and how it becomes.

The word discourse is here used with the double meaning that Norman Fairclough, one of the founding fathers of critical discourse analysis called "a 'felicitous ambiguity': it refers to both, what people are doing on a particular occasion, or what people habitually do given a certain sort of occasion" (Fairclough, 1989, p. 28). The former, which is how the word is used in the narrower, everyday language, refers to the individual events, like conversations or debates, individual texts and publications, and also, as will be explained later, non-verbal expressions. The latter refers to discourse in a wider, conceptual sense, in which it constitutes the substrate of the social world and its formations and structures (McGregor, 2003, p. 8). The idea of 'habituality' that Fairclough employs to characterise this wider meaning of discourse in the quote above, also bears the foundation of social construction and institutionalism. It refers to the rules, norms and conventions we create collectively and which then provide the structures by which our behaviour is influenced and appears as conformist, habitual or dissident. Fairclough, in a later work, gives his own explicit definition of a social institution:

"A social institution is an apparatus of verbal interaction, or an 'order of discourse' [...] It is, I suggest, necessary to see the institution as simultaneously facilitating and constraining the social action of its members: it provides them with a frame for action, without which they could not act, but it thereby constrains them to act within that frame." (Fairclough, 2010, p. 40)

From this linguistic perspective the term 'discursive institution' appears to be tautological. If an institution is an order of discourse, the discursive element would already be implied in simply describing 'money as an institution'. Or one could go on to describe 'money' as being constituted by discourse without including an explicit institutional perspective. However, as we have seen in Chapter 3, the focus on genesis and change that the discursive ontology provides is an important extension of the conventional view of institutions and of particular interest here for the ontology of 'money as an institution'. To understand the importance and ancestry of the CDA viewpoint, its development from linguistics will be briefly reviewed, with special regard to how this is relevant for the study of the concept of Money.

Linguistics, as the scientific study of language, originated at the beginning of the twentieth century with Saussurean 'semiology' which regarded language as a system of signs and symbols that convey meaning in reference to objects outside of language or even in reference to other linguistic symbols (Kress, 2001). Saussure included 'money' amongst his examples of this:

"To determine what a five-franc piece is worth one must therefore know: (1) that it can be exchanged for a fixed quality of a different thing, e.g. bread; and (2) that it can be compared with a similar value of the same system, e.g. a one-franc piece, or with coins of another system (a dollar, etc.). In the same way a word can be exchanged for something dissimilar, an idea; besides, it can be compared with something of the same nature, another word." (Saussure cited in Maurer, 2006, p. 16; and in Mooney and Sifaki, 2017, p. 6)

The comparison of 'money' and language inspired many theorists before and after Saussure (see Dodd, 2014, p. 34-39, and Mooney and Sifaki, 2017, p. 21), but for an understanding of discourse on the basis of the social constructivist framework presented above, this relational, semiotic characteristic of 'money' and language only constitutes the first step of

unravelling their nature. With the epistemological turn, here introduced with reference to Wittgenstein, the establishment of the symbols themselves, and not only their referential value, moves into the focus of the analysis (Potter, 2001). The question then becomes not one of semiology, or what a given symbol relates to, but one of semiosis, or how it came to be and acquired that meaning (Fairclough, 2010, pp. 204-210; Kress, 2001, p. 34). From this viewpoint language does not only reflect the world, but “refracts” it, through the properties given to its written and spoken form (Maybin, 2001, p. 65). With this also the relationship of ‘money’ and language changes. Their comparison as systems of symbols still holds; but considering ‘money’ as being socially construed gives language primacy. Language can exist without ‘money’ but, as a discursive institution, ‘money’ becomes an epiphenomenon that cannot be without language as its conduit. Whereas barter might be conceivable without language, Money the concept, or currencies as practices thereof, cannot.

This is what is meant when in the following language it is called “constitutive” (Wetherell, Taylor and Yates, 2001, p. 16) for social phenomena, including Money and currencies. This process of semiosis is what is meant by ‘discourse’, which, in its interplay with the individual actors that use language, is dialectic in the sense, that it “has effects on social structures, as well as being determined by them and so contributes to social continuity and social change” (Fairclough, 1989, p. 17). The heuristic of the mechanisms through which discourse structures the social world is nested and has as its most elementary unit ‘texts’ as the events out of which discourse practices arise - which in turn determine the production of texts. Those discourse practices again constitute the larger societal or sociocultural phenomena as which Fairclough sees language itself (Fairclough, 2010, p. 294), but also what is here defined as institutions (see Figure 7).

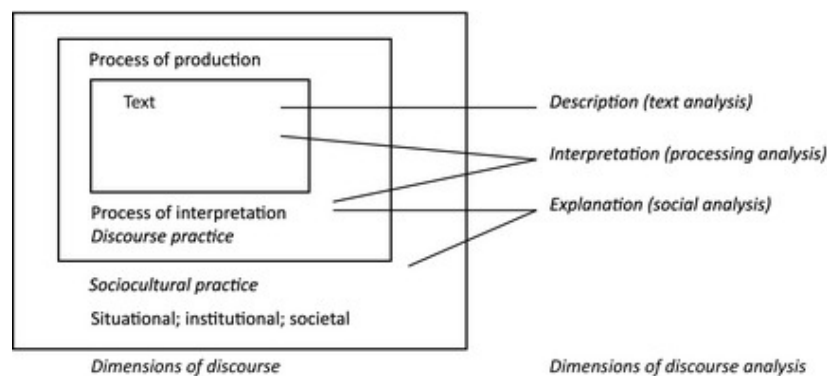


Fig. 7: Dimensions of discourse and discourse analysis
(from Fairclough, 2010, p.133)

In reference to the work of Michel Foucault, Fairclough's concept of discourse finally departed entirely from classical linguistics as he regarded language only as one of the substrates on which the processes of our social world developed. Discourse did not refer to language any more but to "knowledge making" (Hall, 2001, p. 72). With this, other representations of knowledge outside of written and spoken language gained significance, including but not limited to visual expressions, individual and collective behaviour, architecture and organisational structures: "No meaning exists outside of discourse." (Foucault, 1972, in Hall, 2001, p. 73). As this can be expressed as "to 'do' social life is to 'do' discourse" (Wetherell, Taylor and Yates, 2001, p. 4) the following section will elaborate on 'practices' as extra-linguistic discourse.

However, Foucault is also credited for another central element of CDA. As discourse became social practice and not only an exchange of semiotic meaning, power relations became a central object of the inquiry itself. Power here refers to the fact that some actors command more attention, pervasiveness or simply air-time than most others. These factors are seen as elements in the struggle between those who want to maintain and expand their discursive influence and interests versus those whose weight in making their needs heard diminishes. CDA thus turns from an epistemological discipline to one with a "political stance [trying] to increase the voice of marginalised discourses" (Burr, 2003, pp. 174–175) and "to expose power inequalities and ideology" (p. 170).

With the combination of this understanding of discourse and the institutional framework introduced earlier, the imbalances of power directly impact on what is considered legitimate or illegitimate (Fairclough, 1989, p. 22). This does not only apply to the process of establishing explicit rules like the laws governing and sanctioning certain behaviours (Maybin, 2001, p. 65), but also to the range of possible actions and re-conceptualisations in personal or communal processes: “discourses make certain ways of thinking and acting possible, and others impossible or costly” (Phillips, Lawrence and Hardy, 2004, p. 369). In regard to ‘money’ this can be studied as much in the way financial regulators and the law define it, as in the way complementary currency initiatives find unconventional ways of implementing the concept of Money - and the conflicts between these two discourse practices.

For the analysis of these in Chapters 5 to 7, three different approaches and methods will be applied, none of which fall into the conventional repertoire of linguistic discourse analysis. However, the concept of discourse as provided by CDA and its methodological and disciplinary openness (Van Dijk, 1993, 2011; Fairclough, 2004, p. 116) provides the methodological framework to synthesise the findings under the proposed ontology of discursive institutionalism. In this framework the analysis follows the key features that are ascribed to CDA by Ruth Wodak and Michael Meyer (2001, p. 125):

- “1) Focus on a social problem with has a semiotic aspect*
- 2) Identify obstacles to it being tackled, through analysis of*
 - a) the network of practices it is located in*
 - b) the relationship of semiosis to other elements within the particular practice(s) concerned*
 - c) the discourse (the semiosis itself)*
 - i) structural analysis: the order of discourse*
 - ii) interactional analysis*
 - iii) interdiscursive analysis*
 - iv) linguistic and semiotic analysis*
- 3) Consider whether the social order (network of practices) in a sense ‘needs’ the problem*
- 4) Identify possible ways past the obstacles*
- 5) Reflect critically on the analysis.”*

Accordingly, CDA serves as a methodological framework for the account of ‘money as a discursive institution’, which was introduced in the preceding chapter. The societal problem and the network of practices that this inquiry is

concerned with (elements 1 and 2a above) were presented with the nexus of 'money' and sustainability in the introduction and the field of complementary currencies that are intended as localised or sectorial solutions to this problem. Elements 2b and 2c will be covered in the following analytical chapters. The field of complementary currencies will be presented as a discursive practice, with a particular focus on the ways in which these currencies are different in their institutional set up from 'money as we know it' and the concrete obstacles they face (Chapter 5). Then, two particular genres of texts will be analysed as to the definitions of 'money' and currency found therein. These two genres are the communications of central banks with a particular analysis of the publications of the Bank of England (Chapter 6) and the laws and regulatory statutes of the United States of America (Chapter 7).

Together this will allow an appraisal of currencies as interdiscursive practices, which are composed of a range of parallel individual discourses. One of those, the discourse of 'money as we know it', being so dominant and influential that it can be seen as 'hegemonic' in the sense that it constrains the productivity and creativity of the wider discourse by "naturalising" a certain positions and rendering it "commonsensical" (Fairclough, 2010, p. 129). The juxtaposition of 'money as we know it' and complementary currencies here fits Fairclough's definition of hegemonic relation within a discourse, which he exemplified in fields such as politics, health and education (Fairclough, 2010, chap. 5). "Hegemony is a process at the societal level, whereas most discourse has a more local character, being located in or on the edges of particular institutions" (Fairclough, 2010, p. 63). Based on this, and in explicit reference to the practices of finance and banking that led to the financial crisis of 2007/08, Fairclough described the contribution and purpose of CDA in his "Manifesto for CDA in times of crisis" (2010, p. 14). To help critical research "to shift from structures to strategies" (p. 17) he calls to identify emerging discourses and how they relate, in dialogue and contestation, to existing hegemonic discourses (pp. 19-20).

Bringing Money and currencies into the focus of this research is one of the unique contributions of this thesis. The incoherences in regards to the

definitions of these two terms in the dominant discourse and the conflicts that this introduces for the wider discursive practice of complementary currencies will be explored in depth in the analytical chapters. Chapter 8 (Implications) will propose how some of these conflicts can be overcome in theory, policy and practice. This will not amount to a complete 'linguistic turn' in economics to the degree that it had already influenced other sciences but follows from what other CDA researchers have stated as: "economists must embrace discourse and discourse analysis if economists are ever going to understand money" (Suzuki, 2004, p. 11).

4.3 Practice theory and cultural historical activity theory

The following chapter will analyse complementary currencies as a discursive field of 'practice' that challenges the notion of Money and the discursive hegemony of its conventional implementations. This will build on the extra-linguistic elements of discourse introduced with the Foucauldian tradition of CDA, in which discourse can never "be reduced only to language and its mundane use, but rather includes material correlates like art, architecture and relevant here, configurations of practice" (Nicolini, 2012, p. 196). This amounts to an increased degree of what is called 'intertextuality' as the influence and effect that elements of one discourse have on another discourse (Fairclough, 1989, p. 155), here: how the diversity of complementary currency initiatives changes the notion of 'money', even beyond the groups that use them.

Practice theory is in itself a transdisciplinary research discipline that combines various traditions from the social sciences and operationalises them for research of structures and change processes particularly in applied sciences like organisational studies, health, information systems and education (Hashim and Jones, 2007, p. 10; Nicolini, 2012, pp. 213–227). While some fields of practice research are well established, like the cultural historical activity theory (CHAT) that will be applied here, the theory of practice as a whole is still lacking a unified approach or home in a specific academic discipline (Nicolini, 2012, p. 214). However, in alignment with the

methodological framework here applied, CDA is counted amongst the methodological tributaries that constitute the conceptual and analytical field of practice theory (Nicolini, 2012, pp. 195-207). In this way, discourse analysis is one way to understand, conceptualise and research practice (Scollon and Wong Scollon, 2005) and Engeström positions his activity theory as a methodological framework in the field of discourse studies (Engeström, Engeström and Kerosuo, 2003, p. 293).

Both approaches operate with nested multilevel models in which the unit of analysis can be a wider societal phenomenon as well as the granular empirical actions of individuals in the case of activity theory (Yamagata-Lynch, 2010) or individual texts in CDA (Fairclough 2010, p. 132). Furthermore, like CDA, practice theory critically problematises the process of 'naturalisation' in that certain practices are repeated and reproduced without question, taken for granted and turn into unreflected "routines" (Nicolini, 2012, p. 3). With this, questions of continuity and change, or how "organizations and institutions are made and remade thanks to material and discursive work" (Nicolini, 2012, p. 8), are one of the central interests in practice theory and research. Consequently, even when practices become cloaked by habitualization and naturalisation and give "the impression that the world 'could not be different'" (Nicolini, 2012, p. 58) modern practice theory retains the epistemic conviction that there is a degree of freedom and agency in the individual (Nicolini, 2012, p. 55, Yamagata-Lynch, 2010, p. 15) which can be realised through the "negotiated strategic nature" by which human conduct interacts with its socio-cultural context (Lemos *et al.*, 2013, p. 716).

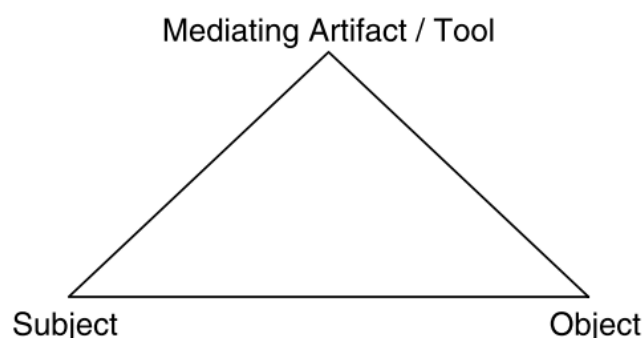


Fig. 8: First generation activity theory model based on Vygotsky
(from Yamagata-Lynch, 2010, p.17)

This relation of the individual and its social surroundings was the focus of inquiry for early scholars in developmental psychology, such as Lev Semenovich Vygotsky, that became the foundation of activity theory and the models of CHAT (see Figure 8 and Engeström, 1999a; Yamagata-Lynch, 2010; Foot, 2014).

In the second generation activity theory, Alexei Nikolaevich Leontiev built on this model and expanded on it to explicitly include the interactions and interdependencies of the individual's actions with their socio-historical context (Yamagata-Lynch, 2010, pp. 22-23). With this, the individual's actions became part of a higher level system analysis in which activities are "not a reaction or a totality of reactions, but rather a system possessing structure, inner transformations, conversations, and development" (Leontiev in Yamagata-Lynch, 2010, p. 21), through which "actors engage, enact, and pursue an *object* or outcome." (Foot, 2014, p. 333)

The starting point of what is today referred to as activity theory, was the formalisation of this contingency between individual's actions and their environment by Yrjö Engeström's work on learning in developmental psychology. He expanded Vygotsky's triadic model to represent the context of actions with the inclusion of the "community of significant others" (Foot, 2014, p. 331) and the ways in which they interact with the *subject* via '*rules*' and '*division of labour*'. All components of this model of an activity system are related to or influence all others, indicated by the arrows between nodes. An activity system has an effect on its context which Engeström later denoted as the '*outcome*' (Engeström, 2003, p. 68). This however is different from the *object* within the activity system itself. While the activity system as a whole can be seen to be oriented towards the achievement of a certain outcome, the individual(s) involved within a given activity system are motivated by their individual *objects*, which might be in conflict with each other (Nicolini, 2012, p.110).

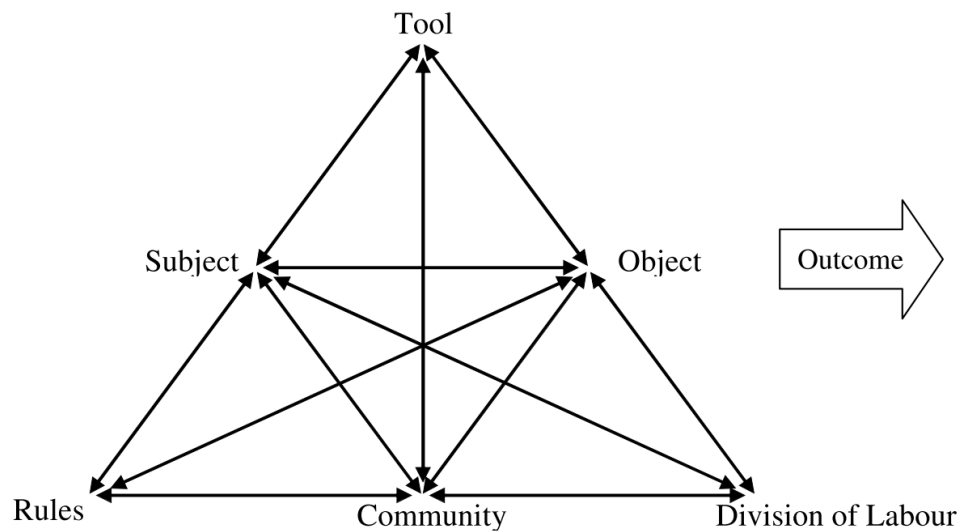


Fig. 9: Engström's extended activity theory model
(from Hashim and Jones, 2007, p. 5)

This model is applicable to various planes of sociocultural phenomena, from the personal, to the interpersonal and the organisational or institutional. What is identified as the '*subject*', and with it the *objects* and *tools*, depends on the chosen unit of analysis. The *subject* can be a single individual (compare Engeström, 1995, p. 366) or an entity at a higher system level, like an organisation (Yamagata-Lynch, 2010, p. 24). The *tools* that mediate the actions within an activity system are not restricted to material phenomena, but include conceptual devices. In this way CHAT, as an analytical tool, relates directly to discourse theory and CDA and their social constructivist epistemologies (compare Scollon and Wong Scollon, 2005, p. 107). The *subject's* actions in an activity system perspective are facilitated through discourse vehicles, including both language and deeds. "Language, protocols, scientific methods and models, and other forms of cultural artifacts are just as much *tools* as are hammers, computers, and phones." (Foot, 2014, p. 331) Furthermore, this discourse perspective is one of the ways in which the historical dimension of current activities and practices becomes an important element of the analysis. Any instantiation of a *tool* is contingent on its progenitors as "participants draw upon existing tools and use cultural historical resources to create new tools with which to engage, enact and pursue the object of their activity" (Foot, 2014, pp. 335-336).

The other element of contextual and, in the sense introduced above, discursive embeddedness of *tool*-mediated actions in the CHAT model relates to actors around a chosen *subject* and how they influence or co-determine actions. Those actors appear in Engeström's model as the '*community*' which can be understood as similar to what elsewhere is called 'stakeholders'. Where the unit of analysis is an individual, this *community* would typically consist of other individuals, but can also extend to organisation or institutions (compare Engeström and Escalante, 1995, p. 366). Where the *subject* of an activity system is a group of individuals or an organisation, the elements in the *community* component would typically comprise of elements of a similar nature (compare Engeström, 1999, p. 31).

Finally, the relations between the *subject* and the elements of its *community* are described in the bottom-corner components of the triangular model: the *rules* and the *division of labour*. In close analogy to the use of the term in neo-institutional theory (Miettinen and Virkkunen, 2005), what is here called *rules* "refer to the explicit and implicit norms, regulations and conventions that constrain actions and interactions within an activity system" (Engeström, 2003, p. 67). They concern as much the interactions between the *subject* and other participants of the *community* as the *subject's* pursuit of the *object* (Foot, 2014, p. 331). The *division of labour* first of all denotes who among the *community* is doing what in regards to that pursuit, but also elucidates the power relations that determine this allocation of tasks between the *subject* and the *community* (Engeström, 2003, p. 67).

After the establishment of this model of conceptualising and researching individual activity systems, the so called third generation of CHAT operates at the interplay between activity systems and how they constitute and influence larger systems or practices.

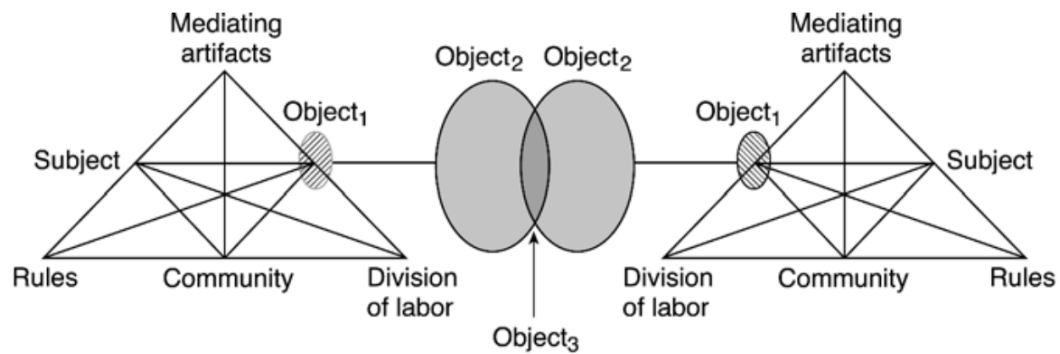


Fig. 10: Two interacting activity systems as minimal model for the third generation of activity theory (from Engström, 2001, p. 136)

In the third generation model, the *objects* of individual activity systems contribute to “a potentially shared or jointly constructed *object*” [here *object 3* in Figure 10] (Engeström, 2001, p. 136) which pertains to a larger structure of practice. With this extended model, CHAT enables the operationalising of a theory of ‘practice’ that encompasses societal phenomena at all levels “as a multi layered network of interconnected activity systems and less as a pyramid of rigid structures dependent on a single center [sic] of power.” (Engeström, 1999, p. 36) This model can contribute to the structured collection of primary data and has been proven to be particularly useful in participatory ‘action-research’ studies (Yamagata-Lynch, 2010, p. 23). It is also equally useful as “a theoretical framework valuable in the analysis of human practices on the multiple dimensions of individual activities and social interaction” (Hashim and Jones, 2007, p. 13; and compare Saka, Southerland and Brooks, 2009, p. 1001).

This thesis will apply the triangular second generation model to analyse individual complementary currency initiatives and bring the individual findings together according to the third generation model, to gain insights into the shared objects of the field of complementary currencies as a practice. Hence, where this thesis speaks of the ‘practice of complementary currencies’, it refers to such a compound phenomenon that consists of distinct but related activity systems. In the wider context of analysing the nature of ‘money’, the application of the methodology allows for an appraisal of the diverse existing practices of currencies independent of their appraisal as ‘money’ by other

specialised discourses, like the theoretical positions reviewed in the preceding chapters or the positions on what counts as 'money' and what does not by central banks and legal disciplines that will be analysed in Chapters 6 and 7. Turning to CHAT and practice theory allows for a methodologically and epistemologically well founded appraisal of the use of the term 'practice of complementary currencies' as found in the literature on the topic (North, 2005; Seyfang, 2008; Seyfang and Longhurst, 2010; Rogers, 2011; Fare, de Freitas and Meyer, 2015; Hughes, 2015; Sartori and Dini, 2016, p. 13). Practice and activity systems are both nested concepts, but the choice of individual currency initiatives as the organisational *subjects* of an activity system here provides a set of clear boundaries for this part of the analysis (Yamagata-Lynch, 2010, p. 24). This allows for an appraisal of the diversity found across the field of complementary currencies as a nexus of "novel social patterns and expansive transformation of [the] activity context" (Engeström, 1999, p. 27), which for the topic of this study is the concept of Money.

4.4 The grammar of institutions

After looking at complementary currencies as practices that extend the horizon of what the concept of Money is, the next methodological step turns to conventional money. In Chapter 5 'money as we know it' will be analysed as a discursive institution by applying a distinct methodology from neo-institutionalism to the publications of the Bank of England.

In the last quarter of the 20th century, around the time that critical discourse analysis coalesced at the intersections of linguistics and sociology, the question of operationalising the ideas of neo-institutionalism became a pronounced endeavour for many scholars of political economy (Ostrom, 1986). In an attempt to provide a synthesis for the different ways institutions had been conceptualised in the literature, and to make those accessible for the methodological individualism of rational choice theory and the modelling techniques of game theory, Sue Crawford and Elinor Ostrom proposed their universal 'grammar of institutions' in a much regarded paper (Crawford and Ostrom, 1995). Their robust and flexible way of codifying an institution will be

applied to parse the statements of 'what money is' in the texts of Bank of England which is one of the predominant and powerful actors in conventional money, not only in the United Kingdom but worldwide. The way in which financial regulators view 'money' provides the discursive milieu in which novel monetary practices struggle for recognition - and in many cases with legal compliance (CCIA, 2015b). By applying the grammar of institutions to the descriptions of 'money' by the Bank of England, the institutional element of the hypothesis can be tested - and ultimately brought to bear in favour for an opening of how 'money' is seen across all actors.

For their grammar of institutions Crawford and Ostrom (1995) begin with a definition of institutions which is fully commensurable with the discursive approach introduced in the hypothesis and further explored with the CDA approach discussed above. Institutions are seen as enduring structures that condition the behaviour of individuals, and that are simultaneously, or as we saw above 'dialectically', "constituted and reconstituted by human interactions" (p. 582). By keeping the subject of their analysis wide open Crawford and Ostrom attempted to lead the way out of an impasse that was hampering the institutional sciences with their plethora of definitions at the time: "No scientific field can advance far if the participants do not share a common understanding of key terms in their field" (Ostrom, 1986, p. 4). At the same time this description opens the institutional heuristic to be applied to the phenomenon of 'money' while also offering the possibility that the community of monetary practitioners and reformers will be able to advance with a common language for the description of their subject matter.

Starting from three predominant theories of institutions found with other authors, 'institutions-as-equilibria', 'institutions-as-rules' and 'institutions-as-norms', Crawford and Ostrom develop their synthetic approach, which includes all those concepts. The individual behaviour that is the basis of the 'institutions-as-equilibria' idea is represented in their model by the term '*strategies*'. The terms *strategies*, *norms* and *rules* from the different approaches to institutions are here combined because all three describe a way to explain "regularities in the patterns of human behaviour. The difference

among the approaches relates primarily to the grounds on which explanations for observed behaviour rest” (Crawford and Ostrom, 1995, p. 582). The strategy or equilibria approach is based on behaviour that stems from a benefit maximising attitude of the individual which, by the principle of methodological individualism, sees coordination and anticipation as a secondary consideration for the actors. Both *norms* and *rules* consider the interpersonal, social field as the origin of behavioural inclinations, which, in the case of *rules* are enforced by third parties, or, in the case of norms, are adhered to due to shared beliefs or other internalised or intrinsic normative factors. (Crawford and Ostrom, 1995, p.583)

With this, the authors go on to define any institution as an arrangement of what they call “institutional statements” (p. 583), which come in the three forms discussed above: *shared strategies*, *norms* and *rules*. In addition, they clearly define what these statements are, and how to distinguish between them, by analysing them with a logic syntax of five linguistic building blocks or “phrasemarkers”, a term used in analogy to Chomsky’s universal syntax theory (p. 584): 1) *attributes*, 2) *deontic*³², 3) *aims*, 4) *conditions* and 5) an *or-else* element. These are abbreviated as A (*attributes*), D (*deontic*), I (*aim*), C (*conditions*) and O (*or-else*). Hence, many applications of their methodology refer to this model as ‘ADICO’ (see for example Basurto *et al.*, 2010; Schlüter and Theesfeld, 2010; Frantz *et al.*, 2013). These five elements are described, in the words of the authors (Crawford and Ostrom, 1995, p.584), as:

³² The term ‘deontic’ comes from the Ancient Greek word *δέον*, meaning as much as “what is right”, it is commonly found in the philosophical disciplines of Ethics.

A	<i>Attributes</i>	a holder for any value of a participant-level variable that distinguishes to whom the institutional statement applies (e.g., 18 years of age, female, college-educated, 1-year experience, or a specific position, such as employee or supervisor).
D	<i>Deontic</i>	a holder for the three modal verbs using deontic logic: may (permitted), must (obliged), and must not (forbidden).
I	<i>Aim</i>	a holder that describes particular actions or outcomes to which the <i>deontic</i> is assigned.
C	<i>Conditions</i>	a holder for those variables which define when, where, how, and to what extent an <i>aim</i> is permitted, obligatory, or forbidden.
O	<i>Or-else</i>	a holder for those variables which define the sanctions to be imposed for not following a <i>rule</i> .

Tab. 1: The syntax elements of the grammar of institutions

All three institutional statements are made up of some or all of these elements and at the very least contain three of them, namely the *attributes*, *aim* and *conditions*. If only those three are present, the statement falls into the category of a *shared strategy*. If, in addition to them, the fourth element, the *deontic*, can be identified in the text, the statement is a *norm*. Finally, a *rule* contains all five elements including an *or-else* (compare Figure 11).

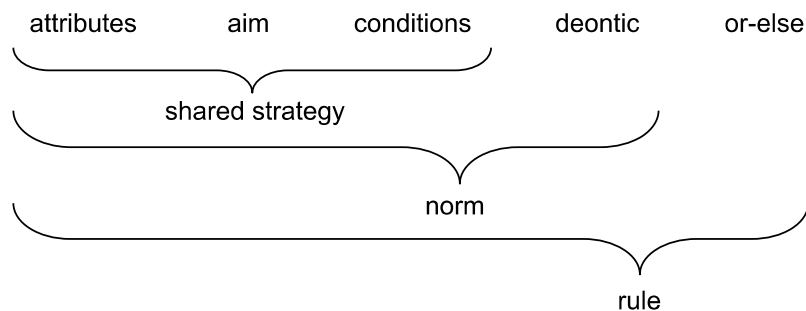


Fig. 11: The syntax elements of strategies, norms and rules in the grammar of institutions

Consequently, the grammar of institutions provides a clear definition and synthesis for the terminology used to describe institutions elsewhere (Crawford and Ostrom, 1995, p. 589), sorting the plethora of terms, including those used for the institutional statements of the grammar of institutions. By intent and merit of this robust theoretic foundation, the grammar of institutions approach has two main applications foreseen by the authors: 1) the analysis of existing institutions in their real-world fuzzy, tacit and intertextual nature and 2) the advancement of agent-based modelling that is used to simulate the behaviour of individuals in given institutions and the effects of different institutional arrangements on that behaviour (Crawford and Ostrom, 1995, p. 591). The latter, of no further interest to this thesis, was exemplified by the authors in the original publication and is continually utilised by other researchers (see Smajgl, Izquierdo and Huigen, 2008; Frantz *et al.*, 2013; Ghorbani and Bravo, 2016).

Application of this methodology for the analysis of existing institutions involves identifying statements found in texts and 'parsing' them into the logic syntax elements, and according to the found elements assigning them to the categories of *shared strategies*, *norms* or *rules*. This procedure is applied in Chapter 6 of this thesis. For this, the methodology of the grammar of institutions was found to have the merits that the authors had proposed, but some difficulties were identified. For example, when attempting to distinguish *norms* from *rules* in cases where the *or-else* element is ambiguous or only implicitly present in the text (Schlüter and Theesfeld, 2010).

In this situation, taking a cue from Basurto *et al.* who also grappled with the implicit nature of *deontics* and *or-else* elements even in legislative texts (Basurto *et al.*, 2010, pp. 3, 13–15), the lens of CDA introduced above will here be operationalised to reveal implicit *deontics* in the texts of the Bank of England. It is here proposed that a statement made by an influential actor, as the Bank of England is in the wider financial and monetary discourse, has a normative character simply by the nature of the author's authority, even if this is not explicitly expressed in the text. Even with such implicit *deontics*, readers of those statements - experts and lay alike - will have to take heed of the way

the Bank of England describes the institution of 'money' because any deviation from such description might lead to regulatory repercussions, as will be seen with some of the complementary currency practices in Chapter 5. The specifics of how this issue will be dealt with in the analytical part of this thesis will be described in Chapter 6, Section 3.

Accordingly a range of statements will here be categorised as a 'norms', even if no explicit *deontic* is found. This is here applied to sentences that appear to be a definition or 'matter of fact' statement. They will be parsed with the introduction of implicit *attribute* and *deontic* elements, that can together be paraphrased as "for the Bank's audience (*attribute*) it is defined and must thus be observed (*deontic*)" and is thus categorised as a norm. For example, the statement that appears as B-2 in Appendix 1 ("In the United Kingdom, for example, physical currency (notes and coin) in public circulation represented only 4% of 'broad money' balances in February 2016." (Barrdear and Kumhof, 2016, p. 2) is parsed as a Norm consisting of the elements *Attribute*: "BoE's audience", *Deontic*: "it is defined", *Aim*: "X is notes and coins", *Conditions*: "in UK".

The X in this parsing represents another adaptation on the coding proposed by the original authors. The analytical framing presented in Chapter 3 already sets the focus on the two terms 'money' and 'currency', which will both be analysed in the way they appear and are described or defined in the texts of the Bank of England. The shared meaning or ontological nature of both will also be extended to include the wide variety of derivative expressions like 'broad money', 'cash', 'bank deposits' and 'local currency'. Hence, the subject of all individual statements analysed will here be made explicit and called the 'explananda' (abbreviated as X) - or what the particular statement is about (see Column D in the Appendix).

The starting point for the proposal of the grammar of institutions is, as Crawford and Ostrom put it, that "We presume that most rule systems are incomplete." (Crawford and Ostrom, 1995, p. 596) Their hope with the introduction of the methodological tenacity here presented is that "the rigor of the logic-based system disciplines discourse by making inconsistencies more

apparent" (Crawford and Ostrom, 1995, p. 596). This also reflects the motivation and expectation for analysing the statements of the Bank of England about the nature of 'money' for the benefit of theory but also to shed a light on the "translations of beliefs into policy" (Basurto *et al.*, 2010, p. 15) in this crucial matter, which will be the focus of the section on policy implications in Chapter 8.

4.5 Approach to legal analysis

Between 2012 and 2015, a team of legal and complementary currency experts at the New Economics Foundation conducted a scoping study on the legal and compliance requirements with which different kinds of community currencies are required to comply in different European countries³³. The study explored the different areas that need to be considered during the implementation and operation of a community currency (CCIA, 2015b). This work revealed a variety of different issues that issuers of different kinds of currencies are confronted with. For this part of the project, working relationships were established with a number of legal professionals in different countries, including the Sustainable Economics Law Center (SELC) in Oakland, California. This not-for-profit law firm founded and led by attorney Janelle Orsi had for many years worked on cases, advocacy and policies for community resilience and grassroots economics, the sharing economy as well as 'money' and complementary currencies (SELC, 2014a). Drawing on this working relationship and without access to law professionals in the UK who would have been knowledgeable and open to freely share their expertise, the research for this part of the thesis was initiated during a three month long research placement at the SELC from January to March 2017.

Conducting this research in the US had obvious disadvantages for the continuation of the argument from Chapter 6 which focused on the notion of 'money' in the publications of the Bank of England. However, as the research on complementary currencies had a strong international dimension since its inception in 1990s (Williams and Jackson, 1997), which will also be reflected

³³ As lead researcher on the CCIA project, I was involved in conducting that study.

in the cases studied in Chapter 5, the findings in the US were deemed relevant in light of the overall research programme of this thesis. In addition to that, the following three factors make the findings in the law of the USA relevant for the notion of 'money' in general, including the UK: the globalised structure of the current financial system, the analogous set-up of the two legal constituencies in the USA and UK, and the fundamental nature of the research objectives.

The first factor refers to the practical consideration that if any one country has a significantly different approach to, or legal definitions of, 'money', it would seem likely that the opportunities of regulatory arbitrage would force such constituencies to align themselves with others (Riles, 2014). What is more, there is a range of international organisations like the Bank for International Settlements (BIS) in Basel, Switzerland³⁴, the International Monetary Fund (IMF) in Washington D.C., USA³⁵, and even some UN agencies and working groups (e.g. the UNEP Inquiry: Design of a Sustainable Financial System³⁶) that negotiate and monitor the global financial system and would be expected to have flagged up any major inconsistencies or differing practices between the dominant financial constituencies (Cihak and Demirguc-Kunt, 2012; Claessens and Kodres, 2014, p. 8; Blanc, 2017, p. 244).

Secondly, the USA and the UK both have a multi-tiered legal system based on what is called 'common-law'. The common basis of US and UK law made the research in one constituency at least methodologically comparable to the other in principle. In regard to the multi-tiered set-up of the two legal systems, analysing the UK's legal system would be comparable to looking at the situation in one of the 50 states of the USA. The two systems today have common ancestry in the English legal system, and even modern treatises on the legal definition of money in the US still make references to historic law and court rulings from England (see for example Proctor, 2012, pp. 6, 20, 37). Where the UK has EU directives that determine the national implementations in their respective laws (Financial Conduct Authority, 2011, p. 19), the US has

³⁴ See www.bis.org [last accessed 18.01.2018]

³⁵ See www.imf.org [last accessed 18.01.2018]

³⁶ See <http://unepinquiry.org> [last accessed 18.01.2018]

state law and statutes which are supplemented and, if in conflict, overruled by federal laws and regulations (Cohen and Olson, 2016, p. 2). This is also reflected in the organisation of financial regulations, with the Federal Reserve System (FED) and other federal agencies at the level of the European Central Bank (ECB) in Europe and individual state regulators at the level of national central banks and agencies like the FCA in European countries.

Finally, the third factor that makes legal research in the USA relevant to a study that is in other parts concerned with discourses of financial regulators in the UK is the fundamental nature of the research question. For a discursively determined ontology of money any findings, even across disparate but historically and linguistically linked constituencies, add to the discovery of its fundamental notions and potential incoherences in general.

The research conducted for this part of the thesis was legal research in the general sense of "the process of identifying and retrieving information necessary to support legal decision-making. In its broadest sense, legal research includes each step of a course of action that begins with an analysis of the facts of a problem and concludes with the application and communication of the results of the investigation." (Jacobstein and Mersky, 2010, in Quirk, 2010, p. 196) Without a concrete individual legal case to support, the latter step for this research only consisted of the reporting of the findings in Chapter 7 and fed into the wider work of the SELC.

In the context of a common law system, legal research on any topic or case typically needs to consider various sources to comprise a comprehensive picture. These can be roughly divided into primary and secondary sources. Primary sources include the texts from all three branches of the government. The legislative branch of government provides constitutions, statutes and state law (Cohen and Olson, 2016, p. 89) but legal research also needs to take heed of the legislative bills and even the hearings that form the basis for the enacted law (Cohen and Olson, 2016, pp. 98 & 127). A second category of primary sources are the rulings from courts at different levels of the jurisdiction, which together constitute what is called 'case law' (Cohen and Olson, 2016, p. 55).

With this complexity of primary sources, the inception of most any legal research project relies on secondary sources that provide an overview of a given legal area or topic by summarizing primary sources at two common levels of comprehensiveness: the in-depth treatise that cover a topic extensively including the historic background and development, and the introductory level 'hornbooks' that are often written to orientate law students in a new subject, like Cohen and Olson (2016) cited above. The publications in peer-reviewed law review journals also form part of the secondary sources, or what is elsewhere called "secondary authority" (Sloan, 2015, p. 4).

The transdisciplinary approach harbours obvious limitations for a research project of this size. Applying each of the methodologies presented above to only one element of the overall research question and different sets of data cannot provide the depth expected from a single research methodology used across a larger set of homogeneous data. With the framing of discursive institutionalism and CDA the individual methodologies of CHAT and the grammar of institutions could each have been applied to all three sets of data that the following chapters will analysis. However, the triangulation of data and methods presented here allowed for perspectives and insights on the nature of Money and currencies and a progression of the argument that more monolithic approaches could not have achieved. The experiences with all individual methods, their benefits and limitations and an overall appraisal of this methodological approach will be discussed in Chapter 8, Section 3.

5 Discursive challengers - The practice of complementary currencies

In theory, there's no difference
between theory and practice;
in practice, there is.

*attributed to
Baseball Coach Yogi Berra
in John Rogers: On the money, 2011*

5.1 CHAT and the topology of a practice

The analytical framework of Money and currencies as discursive institutions presented in Chapter 3 allows for the inclusion of the whole range of monetary phenomena in the analysis of this thesis. These range from conventional money such as the Pound Sterling, the US Dollar and the Euro in their material appearances as notes and coins and their electronic forms in bank balances and payment technologies, to complementary currencies of all kinds, from timebanks, mutual credit systems between businesses, so called local currencies and even digital currencies like Bitcoin.

As will be demonstrated in the following chapters, the scope and meaning of such basic terms like 'money' and 'currency' varies greatly even in such eminent financial discourses like the publications of central banks and law texts. This first part of the analysis will focus on the varied phenomena of complementary currencies as discursively constituted institutional systems that represent implementations of the concept of Money, even if they are very different and, in some respects, even in conflict with conventional money. By their very existence these currencies contribute, as localised activities, to the development or change of the concept of Money overall and its appraisal in common discourse and academic theory (Engeström, 1999b, p. 36; Schatzki, 2011, p. 25). However, as was shown in Chapter 2 and 3, few theories of Money are currently able to encompass the variety of phenomena and resort

to drawing lines and boundaries as to what counts as ‘money’ and what does not.

This chapter will draw on published data from complementary currency initiatives (for example, websites, terms and conditions, annual reports) and publications from the emerging research field analysing and situating these initiatives in social and economic theories (such as the articles published in the *International Journal of Community Currency Research*, IJCCR³⁷). The identification of these texts has been informed by my previous immersive work in the field of complementary currencies. It is important to acknowledge that at least the term ‘money’ is not coherently used across this field either. For example, Thomas H. Greco, one of the most fervent advocates and authors of monetary reform through complementary currencies, consistently uses the term ‘money’ only in reference to what was here called conventional money - issued by the state or through banks as state licensed organisations (compare Bendell and Greco, 2013, pp. 223–227). Furthermore, while he uses the term currency more widely than referring only to notes and coins, he describes complementary currencies as forms of “moneyless exchange” (Greco, 2013) and invokes even in the title of his book the “end of money” (Greco, 2009). On the other end of the spectrum, the term ‘money’ is used freely across the sector to refer to conventional money and complementary currencies alike, particularly in combination with attributes that set the latter apart as “green money” (North, 2004; Brooks, 2015), “moral money” (Thiel, 2012), “interest-free money” (Rogers, 2011), “regional money” (Gelleri, 2009) or “speed money”, “terminating money” and “phone money” (Turnbull, 2010, 2016).

A third line of inquiry within the complementary currency literature is more careful of the terminological difficulties present in Chapter 3 and attempts to situate both conventional money and complementary currencies in inclusive conceptual frameworks employing explicit institutional theories. Here, complementary currencies are represented under the multiplistic, and hence more open term, “moneys” (Gómez, 2015) or “monies” (Lietaer, 2004;

³⁷ See <https://ijccr.net> [last accessed 22.01.2018]

Martignoni, 2012; Blanc, 2017). In this case, the terms ‘currency’ and ‘money’ appear as parallel and often overlapping or even synonymous categories and distinctions are drawn not only between conventional money and complementary currencies, but also within the diversity of currency innovation and initiatives. The former distinction then broadly follows the previously discussed divide in issuance between nation-state vs non-state entities (Blanc, 2011, p. 6; Martignoni, 2012, p. 2). Secondly, apart from their distinction from conventional money, a plethora of typologies have been proposed to structure the phenomena of currency innovations (Kennedy and Lietaer, 2004; Mascornick, 2007; Blanc, 2011; Boyle, 2011; Jones, 2011; Martignoni, 2011; Brakken *et al.*, 2012; Collom, 2012; Seyfang and Longhurst, 2013; Place and Bindewald, 2015; Michel and Hudon, 2015; Tichit, Mathonnat and Landivar, 2016; Bendell, 2017).

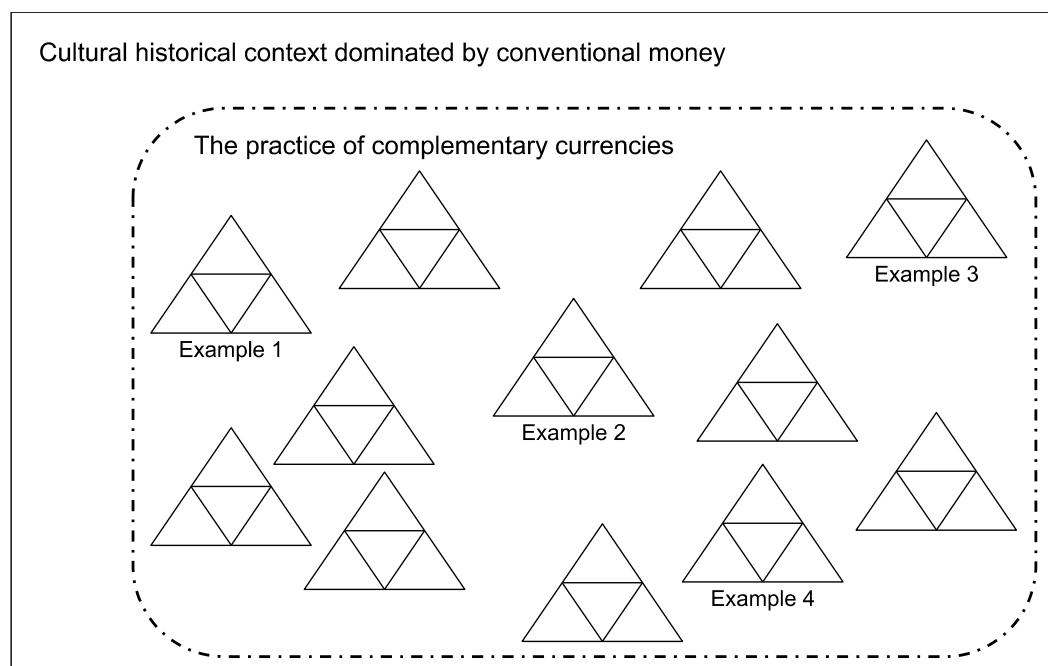


Fig. 12: The practice of complementary currencies as constituted of individual currency initiatives within the context of conventional money; and the four example here analysed.

These continuing efforts to delimitate diversity into categories or classes can be seen as necessarily inconclusive considering the emergence of ever new monetary innovations that transcend or fall outside of previous categorisations. In addition, the variability and openness of the scope of broad

categories like ‘complementary currencies’ and their relation to conventional money does hardly allow for any definitive typology. This also extends to the demarcation between ‘complementary currencies’ and related terms like ‘community currencies’ which some authors use as synonyms (Blanc, 2011). Others see the former as more inclusive and ‘community currencies’ as “distinct from other types of complementary currencies in two main ways: 1. Their explicit aim to support and build more equal, connected and sustainable societies; 2. Their design to be used by a specific group.” (CCIA, 2015h, p. 43). These differences are less relevant here, as the way in which this thesis has introduced the term ‘currency’ to mean any implementation of the concept of Money creates a very broad and inclusive heuristic framework under which all monetary phenomena fall. Furthermore, the discursive framework sheds a critical light on the way that any expressed typology posits entities and differences as ‘realities’ instead of acknowledging their fluid and socially constructed nature (Warf and Arias, 2009, pp. 1, 7). This is not meant to negate the benefit of typologies as communicative vehicles that make novel phenomena accessible for certain audiences and help to relate them to existing theories and practices (compare Bendell, 2017, p. 46).

However, the presentation and analysis of selected examples of currency initiatives in this chapter does not attempt to imply another typology of complementary currencies, but to provide the description of a continuum of practice in the tradition of the ‘topological turn’ in philosophy and cultural sciences (see Phillips, 2013). Stemming from the mathematical sub-discipline by the same name, which is concerned with the description of unusual surfaces and spaces (like the three dimensional but one surface only Möbius strip) that do not lend themselves to conventional geometrically assertive mapping, this approach is mindful of the reifying nature of discursive processes that link terms and phenomena by creating ‘maps’ of categories that can never exhaustively depict the territory (Law, 2000). This does not deny the alterity and differences between the elements within a space. The analytical and terminological framework of this thesis would even have it that every single currency is different from the next, despite the commonly used associative classification of, for example, ‘timebanks’, ‘local currencies’ or

'crypto- currencies'. In the topological perspective, any set of observed differences between currencies or other phenomena thus constitutes a boundary from which descriptions can be derived (Abbott, 1995). The analysis of boundaries as a heuristic framework has been employed by Viviana Zelizer and Charles Tilly to create a consistent analytical perspective and implicitly a theory of Money, that more closely connects Zelizer's earlier work on "earmarking" practices with conventional money to the variety of complementary currencies (Zelizer and Tilly, 2006).

Rolf Schröder has recently revived this focus on boundaries and "theory of space" (Schröder, 2017, p. 3) to describe the differences between various complementary currency initiatives and derived his own set of relationships and distinctions between them. In an analogous manner, the application of cultural historical activity theory (CHAT) and its constituent elements (*subject, object, tools, rules, community and division-of-labour*) used here allow for an appraisal of differences between complementary currency initiatives, by explicitly viewing them as an innovative practice in relation to a "more or less stable background of other practices" (Nicolini, 2012, p. 5), which in this case is provided by conventional money (compare Figure 12). This allows for the appraisal of currencies as diverse discursive institutions that affect changes to the concept of Money: "Small changes always occur, large changes embrace and arise from myriad smaller ones, and the difference that any change makes to the world is open until the world responds" (Schatzki, 2011, p. 25). The extent to which this can be seen with the analysis of four examples of complementary currencies selected for their diversity, varying relatedness to conventional money and availability of good publicly accessible data about them will be discussed in the final section of this chapter. After turning to concepts of conventional money in the following two chapters, the implications of the practice of complementary currencies for the theory but also policies regarding money will be drawn (Chapter 8). In the following section, a general description of how the six elements of the CHAT model will be applied to currency implementations will be given, before four diverse currency initiatives, selected for their heterogeneity and the unusual depth of data publicly available about them, will be analysed accordingly.

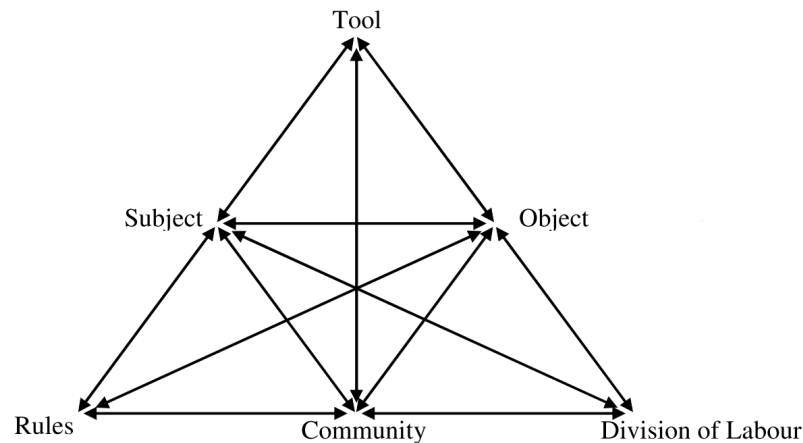


Fig. 13: The six elements of the activity theory model here applied to currencies

5.2 Currency initiatives as activity systems

When the individual currency initiative is the focus of an activity system analysis, the *subject* of this system is the entity that is conventionally identified as the ‘issuer’ of a given currency. Following the definition of the CCIA project, issuance is here seen to comprise of three sets of rules: 1) those that define the factors by which the maximum amount of currency in circulation is determined 2) the mechanism by which the currency is brought into circulation, and 3) the governance system that enforces, sustains or can change these rules. Rules and rule setting in general will be discussed more comprehensively in a latter part of this section. According to this definition the *subjects* of the activity systems here described are the entities, normally but not in all cases ‘legal entities’, that hold the decision-making power and accountability in regard to those rules.

Where some authors defined complementary currencies explicitly as issued by anything but a governmental or public sector entity, but rather by civil society or grassroots organizations (Zelizer and Tilly, 2006, pp. 3–10; Blanc, 2011; Schröder, Miyazaki and Fare, 2011; Bendell and Greco, 2013), this distinction has become less useful in the past ten years. This is due to the emergence of currencies that are commissioned, financed and issued in close collaboration with government departments or agencies, particularly on the

local or regional level (CCIA, 2015h, p. 3; Fare, de Freitas and Meyer, 2015). Under the analytical framework of this thesis, any entity, be it informal, private or public, can be posited as the *subject* of a currency activity system. Furthermore, as complementary currencies are here seen as all currencies other than conventional money, this analysis can be easily extended to phenomena elsewhere often excluded from the field of complementary currencies because of the state's involvement, such as for example the debt cancellation bills called 'patacones' that were issued by the finance ministries of several states in Argentina between 1984 and 2003 (Scott Cato, 2006; Kalinowski *et al.*, 2017) the IOUs briefly issued by the state of California in 2009 (Clark, 2009), or the Special Drawing Rights of the IMF (Mundell, 2005, p. 468; Williamson, 2009; European Central Bank, 2015, p. 31).

This framing of the *subject* in the CHAT application to currency initiatives also has a direct bearing on what will here be considered the *community* of the activity system as in the elements considered 'significant others'. Depending on what legal, organisational and operational form the *subject* takes, the *community* closely resembles what is elsewhere called the 'stakeholders' in a currency initiative, or the "organisations, individuals and entities that have direct interests in a currency's operation", apart from those that would here be included in the *subject* element (CCIA, 2015h, p. 70). This includes the users of a currency, the funders, idealistic supporters and advocates, partnering organisations or entities including but not limited to other currency initiatives, but also financial regulators and public bodies. It is in this element of the CHAT model that the territorial or sectorial boundaries, that are often described as one of the defining feature of a currency initiative, will be reflected on (compare Blanc, 2011, pp. 6–7; Schröder, Miyazaki and Fare, 2011, p. 33; Schröder, 2017, p. 5). As the delimitation of the *community* here can be based as much on territorial factors as on a certain sector, need, intention or even ideology, the CHAT modelling of community currencies remains commensurable with the idea of "special purpose" money derived from Karl Polanyi's distinctions of realms of exchange (Blanc, 2011; Seyfang and Longhurst, 2013; Degens, 2016).

Following on from this idea, the view of a currency being a deliberate, distinct and specific implementation of the concept of Money, the designation of an certain user group also relates to the next element of the CHAT model, the *object*. Different from conventional money that economists assume to be a neutral ‘medium of exchange’ without any particular objectives or purposes (Ingham, 1996), a ‘special purpose’ quality is implicitly or explicitly assigned to complementary currencies. The wide variety of purposes pursued by currency initiatives have been described individually for specific contexts like regional development (North, 2010), social policy (Gregory, 2009) or economic regeneration (Greco, 2013). These also encompass the simplest form of purposes designated by the intended use of a currency by a given geographical community, an idea implicit in the term ‘local currency’ (Seyfang, 2007; Seyfang and Longhurst, 2012; Mauldin, 2015).

In a wider sense, the potential purposes of complementary currencies have been associated with particular social, environmental or economic objectives that are typically, but not necessarily, linked to geographical limits (Solomon, 1996, p. 71; CCIA, 2015h). The approach of ‘design thinking’ and ‘service design’ in the appraisal of the implementation process and operation of a complementary currency brings their intended outcomes into focus as a most important analytical element to describe and even classify currencies (Bindewald and Steed, 2013; CCIA, 2015h, chap. 2; Place and Bindewald, 2015). It is in this sense that different complementary currencies have been identified as “moral money” (Evans, 2009; Thiel, 2012), “green money” (North, 2004; Brooks, 2015), “social money” (Freire, 2009; Blanc, 2011), or “democratic money” (Wainwright, 2012). This attention to objectives in complementary currency research reflects the object-orientation of the actions in the heuristic of the CHAT model and its precursors as described in Chapter 4 (Yamagata-Lynch, 2010, p. 17; Foot, 2014, p. 333).

The intended user groups and objectives along with the available technology in turn determine the mediating *tools* deployed by the currency initiative. This element is where what is conventionally described as the ‘transaction media’ of a currency is described (CCIA, 2015h, p. 101). It includes material tools like

notes, cheques, coins or tokens, but also payment cards, point of sale instruments, web tools, apps and other means that enable the adoption and use of a currency. Beyond the elements that could be identified as ‘the currency’ itself in its material, electronic or conceptual manifestations, *tools* here also include physical spaces that have a function in the activity system, and the programmes and communication campaigns that an initiative might conduct to promote the use of their currency. In this sense exchange points, offices, retail outlets, trade fairs, events, promotional leaflets and brochures, social media channels, brokerage services and projects set up and run by the initiative are included in the *tools* element of the CHAT model. Therefore, this methodology to describe a complementary currency initiative transcends the focus or even identification of a given currency with its transaction medium, issuance mechanism or technology as in “paper currency” (Seyfang and Longhurst, 2014), “electronic currency” (Serra, 2005; Krohn and Snyder, 2008), “peer to peer currency” (Lietaer, 2006), “mutual credit currency” (Jones, 2011; Slater, 2011; Seyfang and Longhurst, 2014; Prifits and Slater, 2015) or “crypto currency” (De La Rosa and Stodder, 2015; Tichit, Mathonnat and Landivar, 2016), “voucher currency” (Ruddick, 2011) or “fiat currency” (Seyfang and Pearson, 2000; DeMeulenaere, 2008).

The particulars of the *object*, *community* and *tools* elements of the CHAT model as applied to a currency initiative are all determined by the rules and conventions that the entity or entities identified as the *subject* of these activity systems agree, propagate and uphold. These rules, explicitly published for example in the user terms and conditions or in promotional material, or implicitly established in the operation of a currency initiative, will here be presented in the CHAT element *rules*. These concern, as was mentioned above, the issuance mechanism of the currency, including, where applicable, credit limits, security measures, and redemption options and liabilities, but also who is allowed to or encouraged to make use of the currency. It is by these *rules*, that complementary currencies establish what was described as their effects in comparison to conventional money: they “substantially re-cast a number of money’s meanings: It implies different relationships between buyers and sellers; creates the possibility for different kinds of transactions;

ties users to local rather than to national economies and simultaneously enhances some exchanges while restricting others” (Schussman, 2005, p. 14). It is this element of *rules*, that makes the CHAT methodology particularly commensurable with the “grammar of institutions”, that will be applied to a different set of data in the following chapter, and the way it conceptualised institutions as being constituted of “rules, norms and shared strategies” (Crawford and Ostrom, 1995). With this, complementary currencies and conventional money are here presented as discursive institutions, constituted through sets of rules. Also, in certain aspects, the activity system of a currency initiative is affected by conventional money and the rules that constitute and govern it. This will be of particular interest in the sixth element of the CHAT model: the *division of labour*.

The *division of labour* element of the CHAT model does not describe how tasks and responsibilities are distributed between individuals or subunits of the organisational *subject* when the focus of the activity system analysis is on the organizational level. Rather, what will here be discussed under that term is the way in which the *subject*, in our case the currency initiative, cooperates with different members of its *community* to achieve the activity system’s *object* (Engeström, 2003, p. 67). The idea of ‘complementarity’ in the description of novel and varied forms of currency already indicates that none of these monetary innovations is intended to replace all other existing forms of currency, including conventional money, but to co-exist with them (Blanc, 2017, p. 240). Hence, all complementary currency activity systems leave a role for conventional money and potentially other currencies and most of them rely on conventional money to operate (Schröder, 2015) and to allow their users to access services that are not available with one currency alone. Subsequently, the *division of labour* includes the role of funders and investors. However, it also includes the support of advocates and project partners that provide communications, awareness raising and operational interfaces between a complementary currency system and the potential users and other stakeholders.

Particular attention will here be paid to the role of public agencies, that determine how the issuance and use of a complementary currency is regulated in comparison or contrast to conventional money. From taxation and social security, to money laundering and banking service regulations: complementary currencies are required to comply with a number of laws and provisions including those applicable to the operation of any other business or not-for-profit entity. Complementary currencies also need to pay attention to financial and monetary regulations that otherwise only concern businesses that deal with conventional money, its issuance, use and transmission, those being typically banks and payment systems operators (SELC, 2014a; CCIA, 2015b). As most laws and regulations are written with only one form of money and its oversight in mind, or even explicitly limit any other form of money apart from the one specified by national law (compare CCIA and Jansky, 2015, pp. 8–10), complementary currencies are often required to position themselves in relation to conventional money, or in some case as ‘not money’, to gain recognition or prevent prosecution on the basis of these laws and regulations (Ruddick, Richards and Bendell, 2015, p. 21). These issues will here be highlighted as a *division of labour* between the issuers (*subject*) of the currencies, and the regulatory bodies that form part of the currency activity system’s *community*. What these difficulties, inconsistencies and potential conflicts mean for the individual complementary currency activity system, but also for the field of practice made up by the diverse multitude of these systems in relation to conventional money, will be discussed in the concluding section of this chapter.

The CHAT methodology itself allows for a much more inclusive and comprehensive presentation of the individual initiatives or for the focus on different research questions. However, in the following examples the analysis of currency initiatives as activity systems cannot aspire to completeness, but instead focuses on the aspects that are most relevant for the appraisal of complementary currencies as discursive institutions and to show the diversity in which currencies can instantiate the concept of Money. To streamline the presentation, the entities presented in the *community* element of the analysis will be combined with the *division of labour* element which pertains to those

entities in a joint section for each example. A comparative summary of the selected findings from all four examples are provided in tabulated form at the end of the following section.

5.3 Analysis of individual activity systems

5.3.1 Brixton Pound (London, UK)

Subject:

The Brixton Pound was envisioned as a project of the Brixton Transition Town initiative (Campana, 2014; CCIA, 2015a) in 2008 during the aftermath of the financial crises. In 2011 it was incorporated as a community interest company, a company form designated for non-profit or so called ‘social enterprises’ (Company House, 2017). It has a varied board of seven non executive directors comprised of local entrepreneurs and professionals and a general manager on staff (Brixton Pound, 2015c). Some of the co-founders, who were at the time part of the Transition Town group, are still on the designated advisory board or mentioned in what is called the “community” on the initiative’s website (Brixton Pound, 2015a). It is from these beginnings, which the Brixton Pound shares with several other currency initiatives in the UK, that the term “transition currency” was derived (Ryan-Collins, 2011), but not all currency initiatives that are subsumed under this term assumed the legal form of a community interest company. The Stroud Pound for example is incorporated as a limited company with a cooperative governance structure (Ryan-Collins, 2011, p. 46).

Object:

On its website, the Brixton Pound is described as “money that sticks to Brixton” and it is said to be designed to support Brixton businesses and encourage local trade and production (Brixton Pound, 2015q). It’s a complementary currency, working alongside (not replacing) Pounds Sterling, for use by independent local shops and traders. The Brixton Pound gives local traders and customers the chance to get together to support each other and

maintain the diversity of the high street and strengthen pride in Brixton.” Which is specified as, “The Brixton Pound Mission [is] to

- *Support and build diversity and resilience in the local Brixton economy in light of difficult economic times and chain store power*
- *Raise community awareness of the local social economy*
- *Encourage and facilitate a self help model and ethos in order to protect the social and financial futures of the residents of Brixton*
- *Encourage local sourcing of goods to decrease CO2 emissions*
- *Raise Brixton’s profile regionally and nationally and contribute to positive perceptions of Brixton by drawing attention to its strong community, diverse economy and capacity for innovation” (Brixton Pound, 2015q).*

In an early research article by one of the co-founders of the Brixton Pound (Ryan Collins, 2011, p. 62) these goals were linked to the overall objectives of the Transition Network that aims to prevent the “leakage” of capital from local areas due to the profits of national or international chains benefiting out of area shareholders rather than the local business community; and to reduce carbon emissions by encouraging shorter supply-chains. However, in an evaluation and impact assessment study conducted as part of the CCIA project (Bindewald and Steed, 2013) the focus and outcomes of the Brixton Pound were found to be less in the economic and environmental domain but rather with consumer behaviour, awareness of place and participation (CCIA, 2015h, p. 56; Steed and Bindewald, 2015, pp. 16–17, 51).



Fig. 14: Ten Brixton Pounds Voucher
(image available at <http://brixtonpound.org/showmemoney>)

Tools:

The primary *tools* offered by the Brixton Pound initiative are the paper notes in the denominations of 1, 5 10 and 20 Brixton Pounds (since 2009), and an electronic payment system (since 2011) (Brixton Pound, 2015q). The paper currency, classified as vouchers from a legal compliance perspective, can be purchased from the initiative itself and several businesses in the Brixton area. The electronic currency can be used via an online platform akin to the systems offered by commercial banks for electronic payments. However, for retail purchases the funds held in electronic Brixton Pounds can be accessed and transferred via standard text messages from cell-phone numbers linked to an individual online account ('Pay by Text', Brixton Pound, 2015i) and since 2015 via linked contactless payment cards (CCIA, 2015h, p. 57).

To facilitate the use of Brixton Pounds the initiative curates a directory of participating businesses (Brixton Pound, 2015d) which can be accessed via a smartphone application that links with the geo-location functionality of the phone to indicate spending options in the vicinity of the user and configures payment text messages with the identifier of the recipient business and the amount to pay (Apple, 2016; Google Play, 2016).

Notably, the Brixton Pound initiative also has a physical presence with a cafe, shop and event space on one of the main shopping streets in Brixton. Apart from revenue generation from the sale of merchandise, refreshments and space hire, this also serves as a point of contact for the engagement with current and prospective users and multipliers that help promote the idea of the Brixton Pound (Brixton Pound, 2015n). Through this physical space the Brixton Pound is estimated to have reached more than 10,000 people in 2015-16 (Brixton Pound, 2016).

In addition, the iconic design of the Brixton Pound brand and paper vouchers, most notably with a portrait of David Bowie on the current 10 Brixton Pound 'note' (see Figure 14), have helped to promote the initiative, not least through the broad coverage in local, national and international media (Brixton Pound, 2015o).

From 2014 to 2016 the Brixton Pound initiative ran a lottery called the “Brixton Bonus” with one time 1,000 Brixton Pounds to be won and tickets sold for 1 Brixton Pound. Along with grants and the 1.5% transaction fees charged to business accepting the electronic currency, the lottery income co-funded a micro-grant scheme for local businesses called the “Brixton Fund” which continued into 2017 (Brixton Pound, 2015b, 2015p).

Rules:

The primary ‘monetary’ rule of the Brixton Pound that it shares with the other Transition Currencies and with many of the German *Regiogelder*, like the *Chiemgauer* in Bavaria³⁸, and the French *Monnaies Locales Complémentaires (MLC)*³⁹, is that the amount of currency in circulation is determined by the willingness of consumers to purchase Brixton Pound (in paper or electronic form) (Brixton Pound, 2014). The conventional money received in this process is held in trust by the currency initiative to provide the option for businesses to exchange the complementary currency back if they cannot otherwise make use of it (Brixton Pound, 2014; CCIA, 2015h, p. 107). This rule provides an important safeguard of monetary value or purchasing power for businesses which might not participate if the Brixton Pound could only be spent at other participating businesses. It also means that prices for goods and services do not need to be changed from Pound Sterling to Brixton Pound and payments combining the complementary currency and conventional money are possible. The Brixton Pound initiative encourages businesses to offer special deals and temporary rebates for customers paying in Brixton Pound, particularly when using the electronic currency (Brixton Pound, 2015d).

Changing back to conventional currency is called ‘redemption’ in the Brixton Pound and is currently free of charge (Brixton Pound, 2015m). Although before 2014, this carried a levy of 10% for the businesses (e.g. receiving 10 Pound Sterling for 11 Brixton Pound), which funded an equivalent incentive for consumers who received 10% more Brixton Pound than the amount of

³⁸ See www.chiemgauer.info (in German) [last accessed 04.02.2018]

³⁹ See <http://monnaie-locale-complementaire-citoyenne.net> (in French) [last accessed 04.02.2018]

conventional currency they exchanged (e.g. 11 Brixton Pound for 10 Pound Sterling) (CCIA, 2015h, p. 111). Such differential exchange rates are called 'bonus' and 'malus' and are common in currencies of that kind (CCIA, 2015h, p. 109) and in some cases the income in conventional money from a higher malus than bonus rate is used to generate funds for charitable causes (Gelleri, 2009). Consumers are not allowed to redeem any of their Brixton Pounds back into Pound Sterling (Brixton Pound, 2014).

For the use of the electronic Brixton Pounds the terms and conditions specify that balances held in Brixton Pounds do not earn any interest, that transaction fees are charged and a maximum of 1,000 Pounds can be transacted and that no overdraft facilities are available (Brixton Pound, 2014).

In regard to who can use the Brixton Pound, *rules* only exist as to which business can accept the Brixton Pound in as much as they have to be located in the district of Brixton or in its outskirts (Brixton Pound, 2015f). The sign-up process on the website does not present any up-front restrictions of what kind of businesses may participate, but states that "Brixton's proudly independent businesses are [...] central to the very idea of a local currency for Brixton." (Brixton Pound, 2015e) and the businesses listed in the directory conform with this implied demographic. There are no restrictions as to who can purchase the paper Brixton Pounds, and the only implicit geographic restriction to create an account for the electronic currency is the requirement to have a UK cell-phone number (Brixton Pound, 2015l).

The Brixton Pound encourages voluntary engagement in the operation of its shop and programmes (Brixton Pound, 2015g) and all directors are unpaid (CCIA, 2015a). The initiative also encourages researchers who want to study the initiative for their theses to get involved and gain hands on experiences (M. Taylor, 2014). Apart from the stipulations for community interest companies set out by the Department for Business, Energy & Industrial Strategy (Department for Business Energy & Industrial Strategy, 2016) no other pertinent rules about the operation and governance of the initiative could be identified.

Community and Division of Labour:

The users of the Brixton Pound consist of two main groups: businesses who accept the Brixton Pound for their goods and services, and consumers who purchase Brixton Pounds to spend at participating businesses (Campana, 2014). Since the number of consumers who use the paper notes cannot be tracked, the number of overall users remains unclear. In 2015, over 1500 user accounts had been registered on their online payment system (Steed and Bindewald, 2015, p. 16). There are currently over 300 businesses listed to accept the paper notes with over 170 of those registered to accept the electronic currency (Brixton Pound, 2015d). Six businesses act as selling points (called “issuers” on the Brixton Pound website) for the paper notes (Brixton Pound, 2015h). As stipulated by the statutory obligations of a community interest company, the Brixton Pound consults with these business on a regular basis through surveys and personal contact including on issues of *rule* setting and changes (CCIA, 2015h, p. 105; Brixton Pound, 2016).

Several organisations are credited as playing a particular role for the Brixton Pound. Those include the New Economics Foundation (NEF) in London where several of the co-founders of the Brixton Pound previously worked as economists and researchers. The Brixton Pound has partnered with NEF on several research and development projects which allowed the initiative to access funding and support its operation and infrastructure. The most recent major project involving the Brixton Pound and NEF was the CCIA project co-funded by the EU’s Interreg programme (CCIA, 2012). In this project the Brixton Pound CIC acted as the demonstration currency of the Borough of Lambeth city council. The publications and research reports by the New Economics Foundation that feature the Brixton Pound further help to make the initiative know locally and internationally and lend a degree of credibility to the currency.

The council of the London Borough of Lambeth, where the district of Brixton is located, has been a close ally of the Brixton Pound and has provided funding opportunities and in kind support since the currency’s launch in 2009 (CCIA, 2015a). Lambeth became the first local authority in the UK to allow

businesses to pay local business rates with Brixton Pounds from August 2012 (Brixton Pound, 2012). The Business Improvement District of Lambeth also accepts payment of the business levy in Brixton Pound (Brixton Pound, 2015m). The initial plans of the council while participating in the CCIA project were to develop a borough-wide currency, the “Lambeth Pound”, based on the Brixton Pound model. However, these were abandoned in favour of continuing the support of the Brixton Pound itself, including the financing of a new website and online payment platform (CCIA, 2015e; Steed and Bindewald, 2015, p. 16).

The provider of the online platform, the complementary currency consultancy Qoin⁴⁰ from Amsterdam, which was also a partner in the CCIA project, continues to be mentioned as one of the “partner organizations” of the Brixton Pound, along with major funders like the Tudor Trust, the Transition Network and the London Mutual Credit Union (Brixton Pound, 2015k). The latter is relevant as the banking partner with whom the initiative holds the Pound Sterling exchanged for Brixton Pound in trust. The issuance model of the Brixton Pound requires the CIC to hold an equal amount of Pound Sterling in reserve for all Brixton Pounds in circulation so that businesses can reconverted their Brixton Pound holdings. This led to a significant cash reserve of the initiative (over £96,000 GBP in 2016), the volume of which can be seen as an approximation of the maximum number of Brixton Pounds in circulation amongst consumers and business in the locality (Brixton Pound, 2016).⁴¹ This amount is not equivalent to all unredeemed Brixton Pounds as particularly the paper currency is also purchased by collectors and visitors who are not expected to make purchases with it. The amount of those notes is described as “leakage” and the equivalent Sterling amount considered income for the initiative (Brixton Pound, 2013, p. 7; CCIA, 2015h, p. 125).

This exchangeability with Pound Sterling and the potential for malpractice when reserves held in trust fall below the amount of currency in circulation also brings the financial regulators of the UK, in this case the Bank of England

⁴⁰ See www.qoin.com [last accessed 04.02.2018]

⁴¹ The amount of Brixton Pounds in circulation in 2012 has been reported to be 30,000 (Kennedy, Lietaer and Rogers, 2012, p. 122) A request for confirmation of the approximation here presented has not been responded to by the initiative.

and the Financial Conduct Authority, into the *community* element. The issuance of paper vouchers lies outside the remit of the Bank of England, but in order to not confuse consumers as to the status of the vouchers as 'currency' the Bank of England advises to have them expire after a fixed amount of time and to state that on the individual voucher (CCIA, 2015g, p. 12). Also, they must be clearly distinguishable from the banknotes issued by the Bank of England and not be referred to as 'notes' (Naqvi and Southgate, 2013, p. 323). The Brixton Pound voucher design clearly conforms with the latter condition, but the second issue of notes in 2011, including the one depicted above, do not bear an expiry date. Regardless of this omission, the Bank of England has deemed the current size and circulating volume of Transition Currencies in England to pose no threat to the stability of the Sterling system and the general public's trust therein (Naqvi and Southgate, 2013, p. 324).

For the electronic balances held on the Brixton Pound's online system, the regulations for so called 'payment system operators' or 'e-money institutions' are the same for the Brixton Pound CIC as for non-bank providers of payments in conventional money. However, operators with a clearly limited number of accepting businesses, or limited range of products and services available in the network, can be exempt from complying with these regulations and their licensing and reporting obligations (CCIA, 2015g, p. 14). The former condition being fulfilled, the Brixton Pound has operated its electronic currency under the assumption of such an exemption since 2011 after informing the regulators of their plans (Brixton Pound, 2015m). However, since the FCA does neither state concretely what size of network it considers to be "limited" or grant official exemptions, the initiative remains vulnerable to a change in the regulator's appraisal and ensuing demands to comply (CCIA, 2015g, p. 14). For this reason, other initiatives offer their electronic currency in collaboration with an already licensed financial institution. For example, the Bristol Credit Union runs the electronic Bristol Pound accounts just like their regular Pound Sterling accounts on behalf of the Bristol Pound CIC (CCIA, 2015h, p. 129).

One last element of the *community* of the Brixton Pound activity system to be mentioned here is the press and media, and also the researchers and academics that have been studying and publishing about the initiative extensively. Their publications have had a significant influence on the reputation and appeal of the currency. As mentioned above, the press coverage about the Brixton Pound was of great value to the initiative and Lambeth council estimated that the publicity created had a intangible value of about £100,000GBP in enhancing the image of Brixton (Steed and Bindewald, 2015, p. 51) which was previously seen as an unsafe and trouble-prone neighbourhood (Campana, 2014). However, since critical reports might have an adverse affect, both groups - the press and researchers - are attentively managed by the Brixton Pound team. As they state on their website: “We receive many messages from students, undergraduate to PhD, who express an interest in basing their research on the Brixton Pound. We are very grateful for this interest and aim to be as helpful as possible, while at the same time ensuring that your research is relevant and not damaging to the Brixton Pound.” (Brixton Pound, 2015j).

5.3.2 Sardex (Sardinia, Italy)

Subject:

The Sardex currency initiative was launched in response to the economic decline that affected the island of Sardinia, Italy, in the aftermath of the financial crises (Sartori and Dini, 2016). In 2010 four young entrepreneurs with little background and experience in finance or business launched the initiative as a limited liability company (Sardex s.r.l.) to leverage collaboration and network effects for the benefit of small and medium sized enterprises (SMEs) on the island (Littera *et al.*, 2017). The Sardex took inspiration from other complementary currency initiatives and its creators actively participated in the business-to-business trade sector (BSI Group, 2013), and were also amongst the few business orientated currency initiatives well received in the community currency research community (Greco, 2015; Sartori and Dini,

2016). After years of increased investment and fast growth, which even placed the company amongst the Financial Times “Europe 1000” in the year 2017 (Stabe, Rininsland and Bernard, 2017), Sardex became a joint-stock company (Sardex Spa) in 2016 with over 50 employees (Sardex, 2017).

Object:

The primary aim of the initiative was to provide employment opportunities within the local economy of Sardinia by supporting local businesses, and to create a viable company in itself (Littera *et al.*, 2017, p. 8). Secondary goals in support of this objective are around the creation of a collaborative economy as an alternative to the dominant competitive market ideology (Sartori and Dini, 2016, p. 276) by connecting and supporting local economic actors (Sardex, no date h). This was to be facilitated independently from the availability of conventional financial services and liquidity with a monetary tool, the Sardex currency, that is built on trust and enhances the economy as well as social sustainability (Littera *et al.*, 2017, p. 15).



Fig. 15: Sardex ‘Starter Kit’ including the “Here I pay with Sardex” kitemark sticker
(Image by <https://twitter.com/onlysardinia>)

Tools:

Participation in the Sardex network provides businesses with a credit line in complementary currency that can be used to purchase goods and services within the network. The credits are denominated in Euro but cannot be exchanged for Euro or bought with Euro (Littera *et al.*, 2017, p. 16). Transactions are executed via an online banking site (Sardex, 2018) or a mobile phone application that also produces account statements or functions as a point-of-sale payment station that identifies payer and payee through the use of QR-codes and the mobile phone's camera (Google Play, 2017). For offline payments, a cheque book is provided to record and submit payments to be executed at a later point. By 2017 the transaction volume of Sardex had surpassed 212 million units worth the equivalent value in Euro (Sardex, 2017, p. 6).

To facilitate trade between members, the website provides a company register and promotional advertisement section for special offers. In addition, a brokerage service is offered from the company's main office in Serraman in southern Sardinia. They provides an orientation during the individual onboarding process for new members and assistance in sourcing and selling goods and services within the network (Sardex, no date c). Other promotional tools include printed brochures, flyers, a kitemark sticker that identifies businesses accepting Sardex for payment (see Fig 15) and a regular newsletter that introduces new members and offers to the network. In addition to that, Sardex hosts networking events and tradefairs to bring members into contact and promote participation (Sardex, no date d).

Rules:

The monetary rules in Sardex reflect the issuance mechanism known as "mutual credit" in the complementary currency literature (CCIA, 2015h, p. 175; Prifits and Slater, 2015). Users start with a zero balance on their accounts but are granted a credit limit to which they can go into a negative balance on their account, akin to the overdraft facilities on conventional bank accounts, but without any interest charged on negative balances. When they make a

purchase with Sardex, their account is debited by the amount of the purchase. Conversely, when they make a sale, their account is credited. As transactions always involve two member accounts, one that is credited and one that is debited by an equal amount, the sum total of all balances is always zero. There is no central account of the operator of the system that is involved in the currency issuance or transactions. In this model, the aspect of issuance that is described above as determining the maximum amount of currency in circulation thus becomes a function of the aggregate credit limits set for all user accounts.

Sardex does not publish the individual or aggregate credit limits that it grants businesses in the network⁴², but several general rules to determine those have been published in articles co-authored by the founders of the system: Credit limits are determined on an individual basis when a new member joins the network and roughly at 1% of the member's annual turnover. Unlike other mutual credit systems, Sardex also operates with a maximum limit for positive balances, which is about 10% of the member's turnover (Littera *et al.*, 2017, p. 16). On its website, Sardex introduces a "golden rule" for trades within a network that members are expected to observe: only to spend as many units in Sardex as they foresee to earn back in a given period (Sardex, no date e). As there are no interest payments on positive balances, refraining from spending does not provide any benefits for the members. On the other hand, if a negative account balance is not recouped within 12 month, this can incur penalty payments in Euro (Sartori and Dini, 2016, p. 278) and members failing to comply with these rules can be taken to court (Posnett, 2015).

These rules encourage members to keep their trading activity up and their accounts balanced which in turn makes the 'velocity' of the currency, an econometric expression for the ratio between transactions volume and the total amount of positive balances, significantly higher than that of conventional currency (1.5 in Euro vs 11.56 in Sardex in 2016) (Sardex, 2017, p. 6). Individual members, who are only permitted to join as employees or associates of an existing business member or governmental agencies, are not

⁴² In personal communication with the Sardex team the terms and conditions and exact processes for auditing members and setting credit limits were said to be "trade secrets".

given a credit limit and need to earn a balance through sales or as part of their salary before they can spend (Sartori and Dini, 2016, p. 298).

As the Sardex currency is nominally equivalent or 'pegged' to the Euro, prices do not have to be changed for sales within the network, however, special discounts and offers are common. Purchases of a value greater than 1,000 Euro can be paid part in Sardex and part in Euro. VAT and other taxes are due to the full equivalent value in Euro, which is another reason why a business is limited in its acceptance of Sardex as it requires revenue in Euro to fulfill its tax obligations (Sartori and Dini, 2016, p. 279).

In regards to rules pertaining to the governance of the initiative and management of the network, a particular set of espoused values stands out. They include transparency, cooperation, mutuality and trust (Sardex, 2017, p. 4). Some of those seem to be in conflict with the nature of a for-profit company. For example, not publishing the membership terms and conditions and the heuristics for setting credit limits contrasts with transparency and symmetric information. However, the ownership composition of the company is disclosed in the press-kit on the Sardex website, where also a comprehensive "Code of Ethics" can be found (Sardex, 2016). This sets out the principles of internal processes and stakeholder relationships and can serve as a touchstone for the self-description of the company as a "social enterprise" (Littera *et al.*, 2017, p. 8).

Community and Division of Labour:

Users of the Sardex network are all located on the island of Sardinia, so no outside entities can open accounts in the system. The initiative differentiates between individual traders, SMEs, large companies and third and public sector entities (Sardex, no date b). Across these constituencies over 3800 member accounts were registered in 2017 (Sardex, 2017, p. 6). Sardex also allows individuals to hold accounts and make payments in Sardex, but does not grant credit lines to those. These accounts need to be credited as part of the salary for business member employees or as a profit share for individual traders. In 2017 over 2300 individual accounts were registered in the network.

On its website, a number of partner organisations are named, many of those being funders and investors of the different stages of the company's development (Sardex, no date f). The European Commission is listed amongst them as Sardex had been a partner in a research and development consortium of the EU co-financed Digipay4Growth project (European Commission: CORDIS, 2014). The regional government of Sardinia was another partner in this project, further establishing the joint development options of both organisations. The international partners in the consortium included local authorities and currency initiatives from the UK, Austria, Spain and the Netherlands which provided Sardex with opportunities for knowledge transfer and joint learning across different currency models and implementations (Sartori and Dini, 2016, p. 298). Sardex is also a member of the International Reciprocal Trade Association (IRTA)⁴³ (IRTA, no date e), a body representing over 100 business-to-business currency companies predominantly in the USA (IRTA, no date d).

On the national level, Sardex has set up currency initiatives in eleven of the regions in mainland Italy (Sardex, no date f). The currency initiatives are collaboratively launched and co-owned between the Sardex Spa and local partners. These affiliate systems build on the technology and intellectual property developed for the Sardinian system and adhere to the same ethical codes (Sardex, 2017, p. 8). Trade between members across the whole national network is possible and if this use of the currency grows, future analyses of the Sardex currency initiative as an activity system could become more relevant on the scale of the whole group rather than the regional network.

The Sardex initiative benefited from close collaboration with academic researchers, like Paolo Dini (LSE) and Laura Sartori (Università di Bologna) cited above, and the media (Littera *et al.*, 2017, p. 17). Due to its success and growth in the first 7 years of its existence and its innovative approach to alleviating the economic repercussions from the financial crisis, the initiative

⁴³ See <http://irta.com> [last accessed 19.01.2018]

has had a large appeal to the national and international media including the financial press and financial and innovation awards (Sardex, no date g).

The initiative also lists Banca Etica amongst their partner organisations. This bank is the only commercial bank in Italy fully dedicated to ethical investment (The Economist, 2013) and has entered an agreement to provide Sardex members with preferential conditions on its banking services (Sardex, no date a). Since Sardex credit cannot be exchanged or bought for Euro, other banking entities are not within the immediate *community* structure of the initiative. Due to this, financial regulators do not play an active role in the Sardex activity system either. Currencies that cannot be exchanged for conventional money with the issuer fall under the technical category of 'closed loop payment systems' and are generally "unregulated" in countries of the EU and the USA (Magnien, 2013; CCIA, 2015d). The units traded are deemed to be neither 'money' nor a 'security' by financial regulators and the operators of the initiatives are not seen as issuers but third party record keepers devolving the liabilities and obligations for use of the systems, for example for tax reporting, to participating businesses (IRTA, no date a).

5.3.3 Dane County TimeBank (Madison, WI, USA)

Subject:

The Dane County TimeBank (DCTB) is operated by a non-profit company (Dane County TimeBank Inc.) which was established in 2006 for the purpose of facilitating timebanking exchanges and helping to set up other timebanks. It is tax exempt under section 501(c)3 of the Internal Revenue Code of the USA for charitable purposes (DCTB, 2012a). Stephanie Rearick, the founder and long-term director of the initiative had been a leader in launching another currency initiative in 1995, the Madison HOURS, modeled on the Ithaca Hours currency⁴⁴, which despite its name is very dissimilar to the contemporary methodology of timebanking (Krohn and Snyder, 2008; Kennedy, Lietaer and Rogers, 2012, p. 155). The management of the assets of Madison Hours was

⁴⁴ See www.ithacahours.com [last accessed on 03.02.2018]

transferred to DCTB in 2013 (Smith and Lewis, 2016). The initiative is currently overseen by a board of eleven unpaid directors and managed by an executive director and ten staff (DCTB, 2018a).

Object:

According to its bylaws, the Dane County Timebank was set up with the express purpose of promoting “community capacity, interdependence and self reliance” and to “strengthen the networks of support and economic power of members by promoting the exchange of skills, services, resources and goods [...]; value skills that are under-compensated by the market economy [...]; educate the community about the benefits and applications of TimeBanking [and] promote TimeBank membership through community outreach.” (DCTB, 2012a, p. 3).



Fig. 16: Dane County TimeBank logo

(image from <http://community-currency.info/en/currencies/dane-county-timebank/>)

In the “member guide” (DCTB, 2012c, p. 1) those goals are reflected in the mission statement “To create community and self-reliance through TimeBank Hour exchange” and the following self-description:

“We are a caring and interconnected community of people who help each other by sharing our abilities, talents, and experiences. By both giving and receiving, we learn to appreciate the value of each and every member and also come to believe in the value of

our own contributions. Instead of separating our community into those who need and those who provide, we recognize that we all have needs and gifts to share."

In the strategic plan (2014 to 2016), those ambitions appear in a wider context of "promoting a new economics" and "providing economic alternatives" (DCTB, 2014, pp. 7–8) which sets a focus on social justice and inclusion and also speaks from the activist stance of the founder and staff: "It's not the economy stupid, it's the stupid economy!" (S. Rearick quoted in Kennedy, Lietaer and Rogers, 2012, p. 181).

Tools:

For exchanges using the "Hours" currency, DCTB runs an online accounts and transaction system which allows members to record their exchanges and view their account balances and transaction history. The timebank also offers an online marketplace in which service requests and offers can be published (DCTB, 2018c). A mobile friendly site has recently been deployed in lieu of a smartphone App (DCTB, 2018e). Since its inception, over 112,000 Hours have been exchanged between DCTB members (numbers aggregated from the annual reports 2014-2016 available at DCTB, 2018g).

For members who cannot operate online systems due to disability or other limitations, an offline/online buddy system is in operation in which members assist each other with broadcasting of offers and requests and Hours transactions (DCTB, 2012b). DCTB also organises neighbourhood based "care-teams" with connectors from the staff team or member volunteers to facilitate exchanges "neighbour-to-neighbour" (DCTB, 2017, pp. 7–8). Coordinators on staff are also available to assist members to find suitable matches to their requests and needs and develop offers and activities for them to earn Hours as part of the onboarding process (DCTB, 2012b, p. 1).

A large number of the overall exchanges happen in the context of "projects" that are run in collaboration between staff and member organisations. Some of those are sector based (e.g. health and wellness), whilst others are organisation based (e.g. an initiative to launch a cooperative in a

neighbourhood, or the administration of a charity shop) (DCTB, 2017, pp. 7–8). The most successful programme in that category is a “Youth Court” system through which teenagers apprehended for ordinance violations are given the opportunity to participate in peer based restorative justice activities instead of being charged through the conventional law enforcement process (Cahn, 2000, pp. 105–109; Volz and Keller Trevaskis, 2012). Since 2006 nearly 600 youth have participated in the Youth Courts system, with an over 80% success rate (DCTB, 2017, p. 15).

To make information about the DCTB and timebanking in general more accessible, DCTB runs an extensive website with many resources available for download, including those prepared for other initiatives outside the area to set up their own timebanking activities (DCTB, 2018h). To communicate and connect with existing members a regular newsletter is published and regular annual and monthly events and gatherings are held (DCTB, 2018f).

Rules:

The monetary *tool* in timebanking is defined by the timebanking methodology popularised as “Time-Dollars” by Edgar Cahn in the early 1980s (Cahn, 2000).⁴⁵ The essence of this is the exchange of services according to a purely time-based pricing mechanism. The currency units at DCTB are called “TimeBank Hours” (DCTB, 2012c, p. 6). All exchanges in the timebank system require both parties to be a member of the timebank first and are in all cases voluntary. There is no legal guarantee for the provision of specific services within the timebank and Hours cannot be exchanged for conventional money (Smith and Lewis, 2016, p. 4). If a service exchange is agreed, it is accounted for in a strictly egalitarian way: one hour of service of any kind earns or costs one Hour (DCTB, 2018d).

Widely recognised amongst timebanks are the five “Core Values” set out by TimeBanks USA, the non-profit organization founded (1995) and still run by Edgar Cahn: 1) Assets, 2) Redefining Work, 3) Reciprocity, 4) Social Networks

⁴⁵ Often not credited however is that the principles of this methodology have been applied at least since the 19th century (CCIA, 2015i), but their reemergence in the 1980s is seen as one of the landmark developments which define the beginnings of the modern era of complementary currencies (Blanc, 2011).

and 5) Respect (TimeBanks USA, no date). Far from being simply idealistic proclamations, these values serve as guiding principles for the operation and governance of DCTB (Kennedy, Lietaer and Rogers, 2012, p. 184) and are translated into a number of “Do’s and Don’ts” in the member guide, in which the core values are formulated as:

“Assets: Everyone has something to contribute to the well-being of others in their community

Work: Some work is beyond price. Those who carry out the really essential activities (such as bringing up healthy children, helping to keep their communities safe and caring for those around them who are more vulnerable), need to be validated and rewarded in some way for the vital work that they do.

Reciprocity: We need each other. Giving and receiving are the basic building blocks of positive social relationships and healthy communities.

Social Capital: Belonging to a mutually supportive and secure social network brings more meaning to our lives and new opportunities to rebuild our trust in one another.

Respect: Every human being matters. Everyone deserves respect from individuals and civic institutions.”
(DCTB, 2012c, p. 2)

Implicitly signing up for those values, any of the half million individuals in the 1200 square-mile county can become a member (CCIA, 2015c). Because the timebank facilitates exchanges with potentially vulnerable and under-aged members, approval of the applications requires a criminal background check as part of the induction vetting process. If any potential risk for other members is determined by this process, different levels of supervision and approval are required from coordinators prior to any exchange (DCTB, 2012d). Following the ‘mutual-credit’ mechanism as described in the section on the Sardex above, all new members start with a zero balance, but no member of the timebank has a set limit on the number of Hours they can spend or earn. However, inactive members whose accounts accrue a negative balance of more than 10 Hours may be contacted by the coordinators to assist them in becoming active within the timebank (DCTB, 2012c, p. 8). There are currently 2690 members registered on the online system (DCTB, 2018b). Conversely, if

an organisation participating in the timebank (233 as of 2016, DCTB, 2017, p. 6) accrues a positive balance of more than 500 Hours, coordinators will help them in finding spending options through integrating timebank member services into their operations (DCTB, 2012e).

For services like teaching that involve one service provider and several recipients, particular procedures for the exchange of Hours between payers and the payee are set out in the member policy. Where goods are offered for timebank Hours, as in the charity shop project, only the time that is required to procure and dispense the goods, but not the goods themselves, are paid for in Hours (Smith and Lewis, 2016, p. 4).

Community and Division of Labour:

As per the most recent annual report, DCTB is currently primarily funded (80%) through government contracts (city and county and school districts) related to the provision of community services through the DCTB projects (e.g. Youth Courts) (DCTB, 2017, p. 16). Another significant source of income is through individual donations and grants. Organisational members can be asked to pay a small annual fee, which amounts to an insignificant part of the revenue (DCTB, 2012e). Individual members are approached through regular campaigns for donations and contribute operationally by their participation in projects for which they earn timebank Hours.

Apart from their financial contributions, organisational members are also involved in the “co-production” of projects (Clement *et al.*, 2017). Projects also involve other actors who are not themselves members of the timebank, like law enforcement agencies, schools, social service departments and third sector organisations (DCTB, 2017, p. 2).

Until changing their online accounting system to the specialised software provider CommunityForge⁴⁶ in 2014 (DCTB, 2018d), DCTB has been a member of TimeBanksUSA and used their “Community Weaver” software service (TimeBanks USA, no date). Despite the fact that ties are currently informal, a strong alignment with TimeBanksUSA can still be observed,

⁴⁶ See <http://communityforge.net> [last accessed 05.02.2018]

particularly in regard to the education and advocacy on the timebanking methodology (DCTB, 2018h).

Through the global community economics research and development project Mutual Aid Networks⁴⁷ (previously known as Time For The World, Brakken *et al.*, 2012, p. 170) which was co-founded in 2010 by then DCTB director Stephanie Rearick, the timebank has developed strong ties with other timebanking networks, researchers and activists around the world (Mutual Aid Networks, 2018). The integration with this project and the embedding of the timebanking methodology in regenerative economics was part of the DCTB recent strategic plan (DCTB, 2014). On a local level, being a tenant at the Madison Social Justice Center⁴⁸ provides DCTB with connectivity with third sector organisations in the locality (DCTB, 2017, p. 2).

Not being redeemable for conventional currency, the issuance of timebank Hours does not fall under financial or monetary regulations (CCIA, 2015d, p. 4). However, since timebanks often include mixed membership demographics, ranging from businesses to individuals in a private capacity and long term unemployed people, taxation and social security implications of earning and spending time currencies is a recurring legal issue. DCTB refers to two rulings by the Internal Revenue Service (IRS)⁴⁹ that specified that timebanks are to be treated differently to commercial complementary currencies and earnings in those systems bear neither taxation nor other consequences (IRS, 1996). Income in timebank Hours is seen as “imputed income” like the private exchanges within a family or voluntary capacity and the rulings are based on the non-commercial nature of the timebanking organisation and the fact that exchanges and membership do not create contractual obligations and that the currency does not have a market value (Cahn, 2010).

The rulings are explicitly said not to be used as precedent in other cases, but DCTB sees them as an indication to assume that, should any disputes arise, they would have “a great case to make that our time spent helping one

⁴⁷ See <http://www.mutualaidnetwork.org/pilot-sites> [last accessed 05.02.2018]
Disclosure: Leander Bindewald had worked as a temporary consultant for the Mutual Aid Network and its predecessor entity Time For The World between 2011 and 2016.

⁴⁸ See <http://socialjusticecenter.org> [last accessed 05.02.2018]

⁴⁹ See www.irs.gov [last accessed 05.02.2018]

another should not be taxed” (DCTB, 2018d). The situation is similar in the UK (Boyle, 2011, p. 6) since a parliamentary debate in 2000 differentiated timebanks from other complementary currencies in that they should not be regarded as taxable (UK Parliament, 2000). In 2015 this position was echoed by the UK Department for Work and Pensions (DWP)⁵⁰ which stated that benefit claimants who participate in a timebank earning time currency are “not considered to be in remunerative work” (DWP, 2015).

In the instance that damages or accidents should arise during the delivery of services between timebank members, DCTB has a volunteer insurance cover but no such incidents have been reported since its inception (DCTB, 2018d).

5.3.4 Bitcoin

Subject:

There is no legal entity that can be described as the issuer of Bitcoin. The currency by that name came to the attention of the general public through its treatment in the headline news of traditional media (see for example Bidder, 2018; Hern, 2018) when the market price for an individual unit reached nearly 20,000 USD in December 2017. However, these units are just one of the characteristics of a novel database system, that was first described in a seminal article published under the pseudonym Satoshi Nakamoto (2008). In January 2009, the ideas described in that paper were implemented and published as a free software package by a developer, or developers, using the same pseudonym on the webserver and development website GitHub⁵¹ (Trottier, no date). Today, the maintenance and development of this software is provided by independent professional and volunteer developers via two websites registered to a small number of software developers to whom the original author(s) have transferred the domain rights (Simonite, 2014). The website bitcoin.org, that was initially used to disseminate the seminal paper mentioned above, now serves as a general educational platform, while

⁵⁰ See <https://www.gov.uk/government/organisations/department-for-work-pensions> [last accessed 05.02.2018]

⁵¹ For more on GitHub see their website at <https://github.com> (last accessed 08.02.2018)

bitcoincore.org is concerned with matters of further development of the Bitcoin software (Bitcoin Core, 2009a). Changes to this software, which effectively instantiates the rules of the currency, are today proposed, peer-reviewed, tested and released through online discussion fora, mailing lists and the GitHub software repository (Bitcoin Core, 2009b). The analysis at hand will be restricted to the initial proposal and software release as the essential elements of the *subject* of the Bitcoin activity system and the description of the other CHAT elements will be analysed accordingly.



Fig. 17: Prevailing Bitcoin Logo

(from https://en.wikipedia.org/wiki/Bitcoin#/media/File:Bitcoin_logo.svg)

Object:

The initial publications by Satoshi Nakamoto describe the goals of Bitcoin as the implementation of an online payment system that allows transactions to be generated, validated and executed directly between two parties without a third intermediary entity. Transaction records were to be made transparent to all parties and irreversible in order to escape the need for organisational arrangements of authority required to arbitrate claims in case of fraud (Nakamoto, 2008, p. 1). Without any central authority, a third issue arises through the potential to duplicate and alter electronic records at virtually no cost. Hence a subsequent goal of the Bitcoin implementation was to prevent “double-spending” activities in which the record and transfer of the same unit would be used to make various purchases without payees being able to verify the genuineness of the transaction (Trottier, no date). In light of these objectives, that preceding proposals have failed to achieve (Simonite, 2014), the Bitcoin software package is described as “experimental” by its current developers (jnewbery, no date).

Tools:

The basic currency unit offered for transactions in the Bitcoin system are bitcoins (commonly abbreviated to BTC, or XBT), which can be transacted to the value of eight decimal points, making the smallest fractional amount one hundred millionth of a bitcoin, which in honour of the originator of the concept is called a satoshi. The term 'coin' here refers not to a discrete unit or token, but to "a chain of digital signatures" which represent the transaction history of a certain entry in the Bitcoin ledger (Nakamoto, 2008, p. 2). Therefore, a user can only figuratively speaking 'own a coin'. A more direct way of putting it would be to say that one can have permission to manipulate a certain entry in the Bitcoin system. The manipulation that is commonly described as the 'transfer of bitcoins' would then be the association of a given entry in the ledger with the permission right of another user. These permission rights pertain to a string of 26-34 numbers and letters called the 'bitcoin address' and the manipulation of entries associated with these addresses are done through one of the core software packages of the Bitcoin system called a 'wallet'.

The wallet software can be used to access several addresses, and permissions to those addresses are managed by another string of 64 letters and numbers called the 'private key' (Bitcoin Wiki, no date d) which is akin to a password (Böhme *et al.*, 2015, p. 16). The functionality of this wallet software is today offered through stand-alone applications for computers, tablets and smartphones, or through web applications (Bitcoin.org, no date b). There are currently tens of millions of bitcoin addresses in use (BitInfoCharts, no date), and a total of about 300 million transactions have been made, a third of those in the last year (Blockchain.info, no date). Those indicators can be read out from the public blockchain database, in which the number of wallets that are offered across many different platforms cannot be determined. However, to actually enter a transaction into the ledger of the Bitcoin system, a second software tool devised by the original authors is required.

The second fundamental software package is what is called a 'node'. As no central server is keeping the current transaction history, each node operates

on an individual copy of the Bitcoin ledger, which is thus called a 'distributed ledger' (Bitcoin.org, no date e). Nodes add a number of new transactions, that were submitted by wallets and are collated into so called 'blocks', to their copy of the ledger (Bohr and Bashir, 2014, p. 94). When that is successfully executed, a new 'block' is added to the 'blockchain'. Nodes broadcast the new version of the amended ledger to the network for adoption by the other nodes. When a transaction is thus entered into the 'blockchain', the holder of the private key of the payee address is then in control of the associated bitcoin value. The number of active nodes in the network is currently at least 11,000 (Bitnodes.org, no date)⁵².

Next to the two technical tools of the node and wallet software, the seminal paper by Satoshi Nakamoto and the language and terminology used therein, here appears as a third *tool* that contributes to achieving the objectives of the Bitcoin system. The analogies used by the original author(s) provided the framing in which Bitcoin was perceived and reported on. One element of this was the comparison of the bitcoin currency to gold and the process of 'mining' for it. The word gold only appears in one sentence in the 2009 paper: "The steady addition of a constant amount of new coins is analogous to gold miners expending resources to add gold to circulation." (Nakamoto, 2008, p. 4) Yet the description of Bitcoin as virtual or digital gold has become common parlance over the years (Popper, 2015; Usborne, 2017).⁵³ Nakamoto's analogy drawn between the addition of new bitcoin units that get added to the system when new transactions get added to the blockchain and the process of mining for gold has become established in that the people or organisations running full network nodes are known as 'miners' (Bitcoin.org, no date e; Ron and Shamir, 2013). Contrary to that analogy however, the (processing) effort required to add a block to the blockchain has no bearing on the number of bitcoins that get issued as a reward or incentive for running a node. The rules governing this process will be discussed in the next section.

⁵² Due to specific settings in the nodes' network connectivity, the number of active nodes is ultimately impossible to determine and might be a multiple of this minimum number (Böhme *et al.*, 2015, p. 214).

⁵³ This association with Bitcoin and gold can also be observed through the results of a Google image search for the term "bitcoin". None of the shiny coins depicted there are *tools* of the original proposal, but artistically designed carriers for a set of private and public keys that can be used to access a bitcoin wallet containing a number of Bitcoin units.

In a similar fashion, Nakamoto's usage of the word 'trust' in regards to the intermediating organisations that enable payments in conventional money can be seen as the precursor for how Bitcoin has become known as a "trustless" currency and payment system (Scott, 2016, p. 13). Nakamoto juxtaposes the reliance on financial intermediaries in the conventional system, and the transaction costs related with that, to his proposal of "an electronic payment system based on cryptographic proof instead of trust" (2008, p. 1). The fact that this procedural innovation does not mean that no trust is required when using Bitcoin has since been extensively commented on in expert publications (Bindewald, 2014; Bendell and Slater, 2017; Qureshi, 2017), and the necessity and multi-dimensionality of trust in monetary systems, including bitcoin, has been highlighted (Scott, 2016, pp. 13–15). Even if trust imbued into incorporated actors within the Bitcoin 'ecosystem' (analysed in the *community* section below) is disregarded, a base level trust in the soundness and security of the Bitcoin software is required from every user (Bland, 2013). Yet the idea of trustlessness still persists even in peer-reviewed articles (compare Ross, 2017).

This framing of gold and trustless systems can be seen as beneficial for the success of the Bitcoin system in the constituencies of early adopters, particularly males, with certain ideological leanings (Scott, 2014). A 2013 survey on the use of Bitcoin found that espoused libertarian political views and participation in illicit purchases were amongst the strongest factors correlating with use of the currency and optimism about its future (Bohr and Bashir, 2014, p. 97). The latter factor was confirmed in a later study on search term correlations, which also highlighted interest in computer programming as a relevant demographic factor of the "bitcoin community" (Yelowitz and Wilson, 2015).

Rules:

All *rules* of Bitcoin itself can be seen as manifest in the code and functionality of the core software. A number of those can be identified and described without going into mathematical and technical specificities.

To initiate a transaction, the wallet software submits the necessary information to the Bitcoin network and can then verify the status of the transaction in the records of the network. The entry of transactions into the blockchain ledger of the Bitcoin system can only be executed by the node software. For this it is necessary for the node software to find a solution to a cryptographic problem by trial and error (Nakamoto, 2008, p. 3). Since this process requires significant processing power and electricity, the completion of this process is awarded with an additional entry to the next block that assigns previously non-existent bitcoins to the Bitcoin address of the successful node. This process indirectly gives 'miners' running those nodes an income from selling the newly obtained bitcoin units at market price.

This incentive mechanism is programmed to diminish over time, with fewer bitcoins being assigned to new blocks at certain intervals, and will terminate when the total number of bitcoins in existence reaches the seemingly arbitrarily set amount of 21 million at about 69 million blocks having been added to the ledger (Bitcoin Wiki, no date a). Thereafter, transaction fees offered by wallet owners will present the only incentive for miners to expend processing power and electricity.

The trial and error element of this process means that two nodes might add a new block with a different set of new transactions to their individual copy of the ledger and since the propagation of these new copies takes time to reach all other nodes, divergent copies may exist. Consequently, the copy of the ledger that succeeds in propagating fastest gets built upon with new blocks and will become the confirmed version of the blockchain transaction history. The dismissal of the other copies of the ledger is what makes up the 'consensus' mechanism of the network (Nakamoto, 2008, p. 8).

Another genuine governance feature of the Bitcoin system is that all transactions and the recipients' addresses are published on the blockchain. The owners of those addresses however are not known as no identification is required to create a new address. Therefore, the system is characterised by a level of anonymity (Karlstrøm, 2014, p. 33) and, at the same time, transparency (Bindewald, 2014). Despite the anonymity, the triangulation of

contextual data and transaction histories of individual addresses allows for the discovery of some user information (Ron and Shamir, 2013), while the novelty and particularities of using the system also means that lay users have revealed their identities unintendedly (Jawaheri *et al.*, 2018). As the Bitcoin software can be downloaded for free, there is in principle no rule pertaining to who can use the system (Bitcoin.org, no date d).

Community and Division of Labour:

As the activity system of Bitcoin is here delimited in terms of its initial proposal and core software implementation, most of the entities, functions and roles that are generally discussed under the terms bitcoin, blockchain or cryptocurrency do here pertain to the element of its *community*.

The Bitcoin “ecosystem” (Böhme *et al.*, 2015, pp. 219–222) consists of a number of typically incorporated entities that provide different functions which are not included in the core software and design of Bitcoin. The most prominent of those functions today is the purchase and sale of bitcoin units for conventional currency. This is provided by so called ‘Bitcoin Exchanges’ (Bitcoin.org, no date a) which typically accept payments in conventional currency and provide an automated marketplace function for posting purchase orders and bidding on these. From the demand and purchases across many of these exchanges the market rate of bitcoins is aggregated, which is the current price reported on in the media. Next to the radical innovation of the blockchain technology and the cases of use of Bitcoin in the trade of contraband, the exponential growth of the market price and the risk of its collapse have been major factors in the mass media’s focus on the initiative over the years (Andrews, 2017).

This ability to purchase and sell bitcoins in exchanges is what in turn enables conventional businesses to accept bitcoin as a payment option for their goods and services without having to find suppliers that they can spend the received bitcoins with. As the core software requires some technical knowledge and hardware capacity to run, convenient bitcoin wallets are provided by a number of commercial providers to be used on desktop computer or mobile phones

(Bitcoin.org, no date b). For businesses, comprehensive payment processor services are offered by a range of providers that integrate the wallet functionality with the automated sale of received bitcoins and the vendor's existing payment and accounting infrastructure (Bitcoin Wiki, no date b). In this way Bitcoin is used as a payment mechanism in which pricing and ultimate settlement persist in conventional currency. The volatility of the bitcoin market rate makes it hardly useful as a unit of account in the business processes of a conventional business (Böhme *et al.*, 2015, pp. 224–225).

IT developers are significant in the Bitcoin *community* not only as contributors to the core software. As the software is freely obtainable and open source, replications with minor or significant changes to it can be conducted by anybody with sufficient knowledge of the programming languages it is based on. One ramification of this is the many new currencies that were launched as clones or adaptations of the original Bitcoin software. These 'cryptocurrencies' or 'alt-coins' can have similar or fundamentally different properties as activity systems when compared to Bitcoin (Scott, 2016, pp. 9–11). Particularly the latest generation of these, which have become known for their 'initial coin offerings' (ICO) or 'token pre-sales', are typically being developed by incorporated entities that use them to crowd-fund their operations and business expansion. In principle, all of the rules established in the Bitcoin software could be changed with the next version of the Bitcoin node and wallet packages itself. However, since current node operators cannot be forced to follow such an upgrade, it is possible that major changes to the protocol would lead to a split in the existing Bitcoin network. If that happens, the nodes running the new incompatible software constitute what is called a 'fork' in the system. A major forking event in July 2017 was the split between the lineage of the original Bitcoin system and the new 'Bitcoin Cash' system⁵⁴. To participate in such a fork is only viable for a node operator if the new system and its new currency are likely to garner enough support to establish an attractive market value. In the case of Bitcoin Cash this was provided through the endorsement of several of the companies commercially mining bitcoins (Hertig, 2017).

⁵⁴ See www.bitcoincash.org [last accessed 09.02.2018]

Alignment between the financial interests of commercial entities in the Bitcoin ecosystem and the interests of the software contributors in a stable system is beneficial for the reputation and market value of the currency. Hence it is deemed impossible or “prohibited” for some changes, like lifting the 21 million bitcoin cap, to be implemented in the Bitcoin software, even if all it would technically take is to change some lines of code (Bitcoin Wiki, no date c). Since major conventional financial corporations explore investment in Bitcoin on behalf of their clients and shareholders, this situation has increased in complexity.

While financial regulators have been researching Bitcoin for many years without finding reason for immediate concern (European Central Bank, 2012; Velde, 2013; Ali, Barrdear, Clews and Southgate, 2014) the level of investments that led to Bitcoin’s market rate spike at the end of 2017, and the inherent potential for a sudden collapse, have now led to renewed calls for regulations and curtailing of Bitcoin (Hagan and Mayeda, 2018). However, due to the nature of Bitcoin described in the *subject* section, regulations could realistically only target the entities in its *community* (Böhme *et al.*, 2015, p. 231). Currently, some entities in the Bitcoin ecosystem, like the exchange platforms that provide an interface with conventional money, are already regulated as conventional financial service providers (FINCEN, 2013). Other companies that fall within the remit of national regulators, such as conventional banks, can be prohibited from trading in Bitcoin for micro and macro-prudential concerns relating to the volatility of the bitcoin market (Zuckermann, 2018). However, the regulators’ definition of Bitcoin varies between constituencies and, depending on where companies are registered, they can offer some services related to bitcoin and not others. In general, however, the obligation to report income from sales for or of bitcoins for taxation purposes lies with the individual user.

A last element to mention, that assumes a role in the discourse around the regulation of Bitcoin, are the number of national and international non-profit organisations that act as educators and advocacy groups, like the US-based

Bitcoin Foundation⁵⁵ and similar organisations around the world (Bitcoin.org, no date c).

5.3.5 Summative comparison of selected findings from the four examples

Subject:	
Brixton Pound	Brixton Pound community interest company (CIC)
Sardex	Sardex joint-stock company (Spa)
Dane County TB	Dane County TimeBank, Inc. (tax exempt 501c3 non-profit)
Bitcoin	Satoshi Nakamoto's white paper and software implementation

Object: (Selected Findings)	
Brixton Pound	Support for local businesses; raise the profile of the locality; influence consumer behaviour.
Sardex	Interest free trade credits, local employment; connected and collaborative economy; development of novel financial tools and networks.
Dane County TB	Encouraging solidarity economy; access to services and support for local communities; social justice and equality.
Bitcoin	Disintermediated transactions; transparency and open access; consensus without authority.

Tools: (Selected Findings)	
Brixton Pound	Paper vouchers; online accounts, smartphone application, Text-to-Pay; cafe, shop, event space; lottery and grant giving fund.
Sardex	Interest free credit lines for businesses at par with Euros; online accounts, smartphone application; online marketplace and auditing/broker services; trade-fairs and research projects.
Dane County TB	Online system with user accounts and offers/requests; coordinators and online buddies; projects with members and partners; Information material and regular events.
Bitcoin	wallet software; node software; peer based software development; open access and anti authoritarian ethos.

⁵⁵ See <https://bitcoinfoundation.org/about> [last accessed 08.02.2018]

Rules: (Selected Findings)	
Brixton Pound	Currency units are bought by consumers; businesses can redeem units for Pound Sterling 1:1; only businesses in and around Brixton can participate; CIC profit cannot be used for personal gains.
Sardex	Businesses are granted line of credit after audit; only Sardinian businesses and their employees can use it; units cannot be exchanged for other currencies; accounts need to be balances regularly.
Dane County TB	Any services are strictly priced by the hour; no credit limits for individuals; organisational members supported to balance their accounts; Timebank Hours cannot be exchanged for other currencies.
Bitcoin	Wallets can be accessed through private passcode; transactions get added to blockchain ledger by nodes; blocks get added after solution to cryptographic puzzle; successful nodes receive are new bitcoins or fees.

Community & Division-of-Labour: (Selected Findings)	
Brixton Pound	Consumer buying B£; businesses accepting units B£; research and development partners; Lambeth City Council for in-kind support and funding; London Mutual Credit Union, Bank of England, FCA.
Sardex	Businesses as members of payment network; financial investors; Regional Government; research and development partners; national network of regional replications of system.
Dane County TB	Individual and organisation members; partner organisations and commissioners for project delivery; solidarity economy network organisations; tax authorities.
Bitcoin	Independent software developers; operators of network nodes; commercial wallet providers; currency trading companies and payment processors.

Tab. 2: Summative comparison of selected findings from the four examples

5.4 The diversity of currencies and the discourse of Money

The analysis of the four currency initiatives using the methodological model of CHAT provides two main findings. Firstly, it has demonstrated how the analytical framework of currencies as discursive institutions can be operationalised. The method allows for a description of complementary currencies as institutions in the sense that their rules shape the interactions of its users and other stakeholders. These rules are set by the entities here described as the *subject* of the activity system, but are continuously affected

by the other elements of the system. The methodology does not use the conventional approaches of discourse analysis, but the CHAT model and the data drawn upon demonstrate how every aspect of the activity system that defines the currencies is manifested discursively. A further discussion of this will follow below.

Secondly, the CHAT analysis of the four example currencies demonstrates the diversity of phenomena which together constitute the practice of complementary currencies. A topological description of this practice can never be complete as every single currency initiative is unique in its composition of the elements of the CHAT model. Even if two currencies show the same results in one or more elements of the CHAT model, for example in that their *subjects* were both community interest companies under British law (as is the case for example the Brixton Pound and the Bristol Pound⁵⁶), or use syndicated monetary *tools* and *rules* (as for example many of the local timebanks which are using the model and software provided by the national umbrella organisations like TimeBanks USA, or Timebanking UK⁵⁷), they would still be distinct in the composition of their locally determined *communities*, which in turn is likely to have an influence on the non-monetary *tools* and the *division of labour* elements.

Hence any number of currencies taken into account can only be relatively representative but never an absolute representation of the breadth and diversity by which complementary currencies instantiate the concept of Money. However, the four examples here presented provide good landmark indications for the topology of the practice and show how the CHAT methodology can be used to analyse and understand these phenomena. To show how some of the categories proposed in the typologies mentioned at the beginning of the chapter fit into this topological approach and to further appreciate the multifaceted relation between the practice of complementary currency and conventional money, some other currency systems will briefly be mentioned here.

⁵⁶ See <https://bristolpound.org/who> [last accessed 06.02.2018]

⁵⁷ See <http://www.timebanking.org/our-membership> [last accessed 06.02.2018]

Adding a temporal dimension to the topological appraisal of this field of practice, it is not only the often referred to examples from the early 20th century like the 1932 Wörgl currency (Godschalk, 1986; Kennedy, Lietaer and Rogers, 2012; Seyfang and Longhurst, 2013) that can be counted as monetary activity systems, but also much older examples that receive less attention in the current research on complementary currencies. These include for example the local bracteate coins in the middle ages (Svensson, 2013), the international credit clearing between renaissance merchants (Martin, 2014, chap. 6), the 1830s time currency experiments of Robert Owen (known as the founder of the modern cooperative movement) (Davies, 1994, p. 325; Naqvi and Southgate, 2013, p. 319) and the interbellum Notgeld of German and Austrian local governments (Rösl, 2006). Moreover, even when it comes to modern complementary currencies, the practice here described is older and wider than the grassroots examples of LETS and timebanks in the 1980s that sparked the current development of academic and policy interest (compare Solomon, 1996; Blanc, 2011, 2017, chap. 241). Business-to-business systems, akin to the Sardex, that apply mutual credit *rules*, can be traced to the 1950s, for example in the case of The Allan Hackel Organization⁵⁸ in Massachusetts (Barter News, 2000), and saw a period of growth and proliferation from the 1970s (Stodder, 1998) that led to the creation of their international trade association IRTA in 1979 (IRTA, no date d).

One currency system appears to straddle the commercial and community currency fields and, at over 80 years in existence, it also provides a link between the contemporary and historic examples. The WIR in Switzerland was founded in 1934 as a self-help initiative by entrepreneurs in the face of the world financial crisis (WIR Bank, no date) to issue loans⁵⁹ at very low to zero interest in a currency that was pegged to but not redeemable in Swiss

⁵⁸ See <http://www.hackelbarter.com/financial.html> [last accessed 03.02.2018]

⁵⁹ In the community currency literature, WIR is also used as an example for the mutual credit issuance model that the Sardex operates with (Greco, 2009; Kennedy, Lietaer and Rogers, 2012). My earlier research on currency terminology has however revealed this to be misleading description as WIR credit is granted, as secured loans, by the bank to individual members, just like conventional bank loans, instead of being available on demand through interest free credit line. This has been acknowledged by Kennedy, Lietaer and Rogers (see their erratum post on social media <https://www.facebook.com/groups/388256007926581/permalink/504084643010383>) and had led to further terminological debate.

Franc (CCIA, 2015j). It is today discussed in the complementary currency literature as the prime example for a non-conventional currency that achieves wide adoption and economic impact: Peaking at over 77,000 participating businesses in 2003 (Stodder, 2009, p. 80) and an annual turnover equivalent to 2.3 billion Swiss Franc (CHF) in 2012 (WIR Bank, no date), the WIR is still marginal compared to the whole economy of Switzerland, but has been shown to have an counter-cyclical⁶⁰ effect for the participating businesses that makes it a relevant tool for economic stability (Stodder, 2009). Curiously, the WIR is issued by a cooperative (a regulated form of incorporation under Swiss law) and, despite being confirmed as “not money” in the regulator’s opinion, it was issued a banking licence in 1936 (Dubois, 2014, p. 48). On that basis, the cooperative started to offer more and more financial services to its members in CHF from 1990 and in 1999 the name of the company was officially changed to “WIR Bank”. From then on both loans and accounts in two currencies, CHF and WIR, were available (Dubois, 2014, pp. 80–83).

Other examples exist in which the delimitations between complementary currencies and conventional money become less distinct both in terms of licensing and public sector issuance. The business-to-business currency RES⁶¹ in Belgium is also operating with a banking licence (CCIA, 2015f) and the SoNantes in France was launched by a public bank commissioned by the Nantes city council (CCIA, 2014). The Bristol Pound’s electronic units are held and transacted between accounts at a conventional bank and are thus indiscernible from conventional money from the perspective of the regulators (CCIA, 2015g). Other local governments have been involved in the development of complementary currencies (CCIA, 2012) and even the City of London Corporation runs a time credit system⁶². Finally, at the beginning of 2018, the government of Venezuela has launched a blockchain based currency in parallel to the national currency Bolivar (TelesurTV, 2018).

⁶⁰ Counter-cyclical here refers to developments over time that run counter to or are negatively correlated to general economic indicators. In the referenced study of the WIR, more user and higher turnover in the complementary currency was noted in times when the Swiss economy (as measured in GDP, unemployment rates and CHF money supply) was struggling. And when the Swiss economy was recovering, use of the WIR declined.

⁶¹ See <http://res.be> [last accessed 05.02.2018]

⁶² See <https://www.cityoflondon.gov.uk/services/community-and-living/Pages/time-credits.aspx> [last accessed 06.02.2018]

The third generation CHAT model provides opportunity to pose the question of what is the shared *object* of the few examples analysed in depth in this chapter ('object 3' in Figure 10) and how this defines the practice of complementary currencies. As the objectives of different currency initiatives varies greatly, from social inclusion to stimulating local economy to lower transaction costs, and, here not discussed in detail, environmental outcomes (Ryan-Collins, Schuster and Greenham, 2013; CCIA, 2015h, p. 63; Steed and Bindewald, 2015, p. 61) the smallest common denominator seems to be around changing the instantiations of the concept of Money in the face of the inadequacies of conventional money. The elements that constitute complementary currencies also touch on the discourses that define conventional money. As the *community* and *division of labour* elements of the above analysis showed, this has practical implications for the way complementary currencies are seen by financial regulators and reveals certain discrepancies in what is deemed to be 'money'. On the one hand, complementary currencies like the WIR and Sardex that are very close to the everyday utility of conventional money, as most goods and services are available in their large respective networks, are not regarded or regulated as 'money' or even payment services (IRTA, no date b). While other currencies models, like the electronic Brixton and Bristol Pounds, call forth at least in principle, the same regulatory categories as conventional payment providers (like e.g. PayPal⁶³) even though their usability to individuals and businesses makes them very much unlike Pound Sterling (CCIA, 2015d). For others, like timebanking Hours and bitcoin, legal frameworks fail to apply to them as monetary systems altogether and focus only on taxation or, in the case of cryptocurrencies, third party services.

The CHAT methodology has here been applied to elucidate how the concept of Money is instantiated in the practice of complementary currencies as discursive institutions. By this, the theoretic framework and novel theory of money is validated as a way to further the understanding and research of

⁶³ See <http://paypal.com/> [last accessed 04.02.2018]. PayPal is regulated as a 'e-money' provider (Bank of International Settlements, 2014, p. 9), which is what the Brixton Pound CIC would be seen as if they were not to assume the 'limited network exemption' (CCIA, 2015d).

these otherwise under-appreciated or even misunderstood phenomena. The above mentioned peculiarities in the way complementary currencies are accounted for in monetary regulations poses the question of how conventional money is defined in its respective discourse. The following two chapters will pursue this question further. According to the theoretic framework of discursive institutionalism, conventional money, just like complementary currencies, is also constituted by certain sets of *rules*. For currencies like Pound Sterling, US Dollar and Euro the *communities* to which their respective *rules* are relevant would include everybody who pays or is being paid with these currencies, but also banks and financial service providers as the organisations that make these currencies available to the public and facilitate transactions with them. In addition, the *subject* setting the *rules* for conventional money would be the entities imbued with the power to define and ultimately enforce what its *community* members can and cannot do in regard to these currencies, ergo: central banks and financial regulators and, governing those, the legislator.

With the different forms of conventional money and the many organisations, both public and private, that are involved in its governance and use, its description as an activity system would be substantially more complex and multi-layered than here demonstrated for individual complementary currencies. Therefore the next chapter will focus on the *rules* governing conventional money by analysing central bank publications as a central genre of its discourse. The grammar of institutions methodology (Crawford and Ostrom, 1995) will be applied to these texts in order to ascertain what ‘money’ and ‘currency’ mean for financial regulators and how that compares with the practice of complementary currencies. In Chapter 8 the implications from the findings of all three analytical chapters will be drawn for monetary theory, policy and future research on ‘money’.

6 Fifty shades of gold - A critical reading of central bank publications

'I would prefer to say that it is a tacit understanding that we will honour our promise to exchange it for a dollar's worth of gold provided we are not, in point of fact, asked to.'

'So... it's not really a promise?'

'It certainly is, sir, in financial circles. It is, you see, about trust.'

*Terry Pratchett:
Making Money, 2007*

6.1 Bank Talk

The previous chapter demonstrated how in the practice of complementary currencies the concept of Money is implemented in much more diverse forms and is more conceptually open than is commonly considered. The narrow homogeneity of conventional money can easily be illustrated with an image search on the term 'money' with the Google search engine. This homogeneity stretches across what is commonly called 'national currencies'. Regardless of whether the generic US centric search engine google.com or its UK site google.co.uk is used, the US Dollar is the dominant representative of 'money' (see Figure 18). In this chapter, this narrow meaning will be challenged by the means of discourse and institutional analysis. In the first section the importance of central bank communications in the establishment of a 'common image' of money is reviewed. In the second and third sections one particular corpus of texts from the publications of the Bank of England will be analysed in relation to the statements about the nature of 'money' and 'currency' with an empirical application of the grammar of institutions. A subsection therein will focus on references to gold as one curious aspect of the Bank of England's framing of 'money', before the final sections summarise the findings from this chapter.

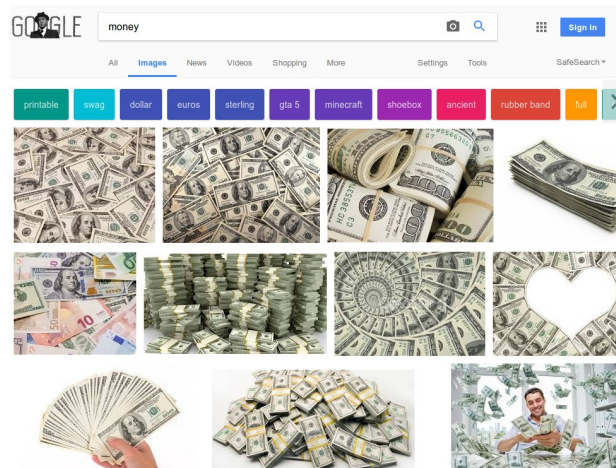


Fig. 18: Screenshot of google.co.uk image search on 28th of August 2017

The framing of ‘money’ employed by financial regulators and central banks is a topic not only interesting for discourse analysis but also of practical relevance in regard to the legal and regulatory ambiguities that are revealed by the implementation of complementary currencies. The very language used by regulators to define ‘money’ has the power to “define potentials, sets of possibilities” - which is the phrase Norman Fairclough uses to describe the attributes and importance of language in general (Fairclough, 2010, p. 294). Or as a former governor of the Bank of England once said: “Habits of speech not only reflect habits of thinking, they influence them too. So the way in which central banks talk about money is important.” (King, 2002, p. 174)

Internal discrepancies in how authors of the Bank of England think and write about the terms ‘money’ and ‘currency’ are apparent even without much analysis. As a point of illustration, the Bank of England's Quarterly Bulletin from January 2014 titled “*Money in the modern economy: an introduction*” clearly defines “currency” in its glossary as “cash” or the “notes and coins” issued by a government (McLeay, Radia and Thomas, 2014b, p. 12). Yet, the term appears in other publications by the Bank of England in a way that is contrary to their definition. An earlier issue of their Quarterly Bulletin looked at the phenomenon of “local currencies”, a term used in the field of complementary currencies (Naqvi and Southgate, 2013). The first apparent

discrepancy here arises from the fact that local currency notes are obviously not issued by any governmental body and hence would not match the narrow definition offered in the 2014 Bulletin. Furthermore, most transactions in the described UK-based 'local currencies' happen purely electronically, via online banking and text messages, without any physical medium that would meet the concept of cash.

Subsequent publications by the Bank of England operate with the term 'digital currency' to describe specific complementary currencies like bitcoin (Ali, Barrdear, Clews and Southgate, 2014) which, given the aforementioned lexical definition, simply amounts to an oxymoron: nothing can be digital and at the same time physical. Of course it can be argued that the usage of the term currency has evolved along with technology and the new exchange media that have gradually replaced the importance of cash. If this development was acknowledged openly and old definitions amended to respond to new and emerging phenomena, with a high degree of transparency and care towards the discursive context, the situation could be seen as fruitful and creative. For now, the stance of critical discourse analysis chosen for this research mandates a special attention to statements from powerful actors in any given context, even if they seem so commonplace, technical or even benign as the two examples above. Or, as monetary reform scholar Randall Wray insists, when it comes to analysing monetary discourse: "It is not so much the accuracy of the conventional view of money that we need to question, but rather the framing." (Wray, 2012a, p. 1)

Here, the methodology of frame analysis (Goffman, 1986) will not be applied explicitly to the discourse of financial regulators, but an analysis of the "constituent statements" (as defined by Crawford and Ostrom, 1995) they make about the nature of money and currency - and the relation between these two terms - will be presented. This application of the grammar of institutions will not only demonstrate how money can be treated as a discursive institution, but also allows for a critical appraisal of the way that the concept of money is viewed and communicated by the Bank of England as one of the pre-eminent actors in the wider discourse of money. This demands

acute attention and scrutiny because of the Bank of England's explicit communication strategy that was developed in 2014 and, at the time of researching this thesis, published as part of their strategic document "Vision 2020" (Bank of England, 2017a):

"Communication at a central bank is an important policy tool. Our policies have maximum impact when they are heard and understood. Good communication therefore links directly back to the successful delivery of our mission. On external communications we will seek to attract a wider audience with a targeted, creative approach to content and analysis including key publications and speeches."

This reorientation towards wider non-expert audiences is a remarkably novel stance for central banks. To give an account of the historical approach of central banks towards transparent communications, Issing (2005, p. 66) singles out the central bank of the United Kingdom saying: "There was a time when the Bank of England could almost be classified as the epitome of reticence vis-à-vis the public". This was not true only in the UK. Today, the communication efforts of central banks are seen as being on a par with their other, more obviously monetary or financial activities. In a play on words to 'open market operations' - the buying and selling of government bonds to regulate asset prices and the amount of money in the economy - Guthrie et al. speak of modern central bank communications as "open mouth policies" and hold them as being just as potent as their traditional policy tools (Guthrie and Wright, 2000). With this change in practice a plethora of literature has emerged addressing the questions of how much and what kind of communication activities constitute "optimal communication policies" for central banks (Blinder, 2008, p. 26)⁶⁴.

Some authors have taken an openly normative approach, particular in respect to the European Central Bank (ECB), which is seen as markedly less transparent than its sister institutions in other constituencies (Issing, 2005, p. 72; De Haan and Jansen, 2009). Not publishing the minutes of ECB committee meetings and the voting behaviour of its members is criticised as a

⁶⁴ The body of literature discussed in this section was brought to my attention thanks to Dr. Ludovic Desmedt of the University of Bourgogne, FR, after presenting my PhD research at the conference "Monetary Institutionalism in the French Speaking World", Lyon, May 2016 <https://imf2016.sciencesconf.org>

symptom and indicator of the political complexities under which the ECB was created and the undemocratic nature of its operations (Desmedt and Llorca, 2014). However, in the literature that analyses the discourse emanating from central banks, most attention is concerned with the use of language in regards to how they explain and announce the setting of interest rates, the analysis of their respective economies' performances, and optimistic or pessimistic predictions of economic growth. Nuances in the wording thereof in reports, at press conferences or speeches now affect the public's appraisal of the state of economic affairs and thus can be seen as an enactment of central bank "intention to shape pricing behaviour" (Holmes, 2014, p. 31). Many people and institutions closely monitor every utterance from central banks because foreseeing their actions promises an advantage in gauging market developments (Karl, 2013, p. 66). In the US, commentators have even coined the term "FED-watching" (Karl, 2013, p. 72) for the economic journalists' close observations of central bank communications, and former chairman of the FED Ben Bernanke was quoted saying: "it has not been uncommon in the past few years for financial markets to react more strongly to changes in the wording of the [Federal Open Market] Committee's statement than to its decision about the target for the federal funds rate itself" (Karl, 2013, p. 63).

This genre that Karl calls "Bank Talk", to which the present analysis of the term money in Bank of England publications appears to contribute a fundamental element, has been identified to have strong performative elements with an "ontology and tendencies [...] akin to those of fiction" (Karl, 2013; see also Dodd, 2014, p. 16). Holmes, having studied the communications of different central banks for over 15 years, even likens it to public drama, storytelling and ritual (Holmes, 2014, pp. 8, 25). A reference to discourse and discourse analysis is however found only in passing and never as an explicit methodological approach in this body of literature. Just one piece of research, Moretti and Pestre (2015), employs a specific quantitative discourse analysis methodology to the corpus of the annual reports of the World Bank between 1946 and 2012. Their paper, titled "Bankspeak" in reference to George Orwell's 1984 "duckspeak" (Orwell, 2013, p. 57), analyses the prevalence of nouns, verbs, conjunctions and temporal words

longitudinally and finds significant changes in the language and semantics of these reports over the decades. This leads them to conclude that “the style of the reports becomes much more codified, self-referential and detached from everyday language” (Moretti and Pestre, 2015, p. 76), giving a general verdict about the style of these reports as being: “All very uplifting - and just as unfocused” (Moretti and Pestre, 2015, p. 99). Remarkably, within a few years their paper acquired recognition and achieved publicity beyond most individual research publications. In 2016 the New York Times reported it, if only with an ironic undertone (Cohen, 2016). And in 2017 the new World Bank chief economist himself took the “Bankspeak” findings seriously and demanded a maximum ration for the word “and” in all reports of his research division. The Guardian and The Economist subsequently reported and speculated that this might have been cause for an unexpected change in his position within the bank, which made him lose all editorial control over its research outputs (Holmes, 2017; The Economist, 2017).

6.2 Bank of England communications

Returning to the Bank of England and the data here to be analysed, the above mentioned communication strategy is positioned on the Bank’s own website as a natural component of its mission that has been outlined ever since the Bank received its charter in 1694. This mission is however only vaguely defined in the original charter and is currently expressed as: “[T]he Bank’s mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability.” (Bank of England, 2017a) Illustrating what this means (and tying it more closely to the focus of this research), a current pamphlet distributed online and at the Bank of England Museum further explains: “Monetary stability means stable prices and confidence in the currency. [...] Maintaining confidence in the currency is a key role of the Bank and one which is essential to the proper functioning of the economy.” (Bank of England, 2015a, p. 1). Therefore, the following analysis can be seen as a very close look at what “the currency” means in the Bank’s own understanding, and how their communications might be employed

to ensure our confidence in it. The selected texts are part of a particular interdiscursive genre, which spans the specialist economic and popular discourses about money.

Today, the Bank's website⁶⁵ and the publications freely distributed at their on-site museum in London increasingly use a language and imagery that clearly speak to an audience much wider than economists, financial experts and politicians. The same style can be found in recent articles of their regular and fully referenced publication called the "Quarterly Bulletin". A blog page has even been launched in 2014⁶⁶ in which Bank staff can publish articles of academic quality which would previously have been considered working papers and bear the same disclaimers as to the arguments expressed therein representing nothing but the author's opinion. All these highlight the paradigm shift in central bank communications discussed above. In regard to the nature and concept of money, this new approach to publicity is directly relevant. As Holmes explains in his seminal book "The economy of words" communications are now part of the "search for new means by which monetary affairs could be anchored conceptually - not to gold or to regimes of fixed exchange rates - by means of an evolving relationship with the public" (Holmes, 2013, p. 15). In other words, in the perspective of discursive institutionalism descriptions of money are constitutive, not just descriptive, of what 'money' *is*. The following analysis demonstrates how institutional methodologies can be applied to ascertain this notion empirically.

6.3 Grammar of institutions: Procedure

To determine how 'money' is, in part, constituted by the statements of financial regulators, a sample of publications by the Bank of England will be analysed using the grammar of institutions as laid out in Chapter 4. Within these texts, all statements that concern the nature of 'money' and 'currency' will be parsed into their institutional syntax (*attribute, deontic, aim, conditions, or-else*). The selection of this corpus out of the large body of publications that are freely

⁶⁵ See www.bankofengland.co.uk [last accessed 13.09.2017]

⁶⁶ See www.bankunderground.co.uk [last accessed 13.09.2017]

available on the Bank of England's website had four stages. The first and second stages were a preliminary selection of publications performed online on the Bank of England's website by screening the results in the web browser. The third and fourth stages, which finally determined the corpus of texts to be analysed, were carried out offline.

First, the search function on the Bank's website was used to identify publications that contained the primary search terms (see below). The search functionality was tested for consistency and found not to be case sensitive but sensitive to exact searches with quotation marks around the search terms. Also, numbers of primary search results per searched term were recorded only after accessing all pages of the search results (with 10 results being presented per page) as it was found that the number of search results on the first results page would sometimes present preliminary and larger numbers of results that would be automatically updated to final smaller numbers once later pages were accessed. This peculiarity of the website's search functionality was consistent across all search terms and replicable for iterations of the same term.

A preliminary search revealed roughly 36 thousand pages and documents listed on the website of the Bank of England found to contain either the word "money" and the word "currency". To limit this expectedly large number, a search for nine exact terms consisting of two or more words was conducted which reduced the primary results to a total of 1932 matches. See Table 3 below for a list of searched terms and individual results. In the first stage, the results for those terms were screened by surveying the listed results' previews directly in the search page of the Bank's website. These previews include a snippet of search term match in the document and the title of the publication. For all search terms that yielded more than 100 matches, only the first 100 results weighted by the search engine's "relevance" criteria (as opposed to "sort by date" criteria) were screened. The inclusion criteria at this stage was the results' obvious relevance of the title or displayed text snippet to the question of the nature of money or currency in any explicatory or descriptive way. Resulting numbers of retained search matches per search term and

exemplary search term matches that were excluded during this screening are also presented in Table 3.

Search term:	Matches:	Selected:	Exemplary expressions excluded in screening:
"money is"	862	31	"the quantity of money is largely independent of its price"; "how your money is protected"; "a lot of money is spent";
"money is a"	30	10	"cost of money is a less critical factor"; "value for money is a key imperative"; "Lending money is a risky business"
"currency is"	376	18	"expected to appreciate against the dollar (or whatever the alternative currency is)"; "(including that of the less liquid currency) is paid"; "The foreign currency is in turn sold";
"currency is a"	15	3	"The IMF's holdings of its currency is a country's Reserve Tranche Position (RTP) "; "exchange of currency is a fundamental financial activity"
"a currency is"	14	5	"To the extent that a currency is managed"; "where a currency is internationally widely traded"
"definition of money"	19	13	"the definition of 'money markets'"; "the broadest definition of money holdings"
"definition of currency"	1	0	"different definition of currency risk is used in a firm's model"
"digital currency"	471	16	"prospect of a central bank digital currency (364 mentions of that term)"; (and matches referring to same publication on blog, press release, summary pages, "read also"-links
"digital currencies"	86	31	matches referring to same publication on blog, press release, summary pages, "read also"-links
"digital currency" & definition	46	10	"prospect of a central bank digital currency" (CBDC 364 occurrences); (or both terms were far apart in document and matches referred to same publication on blog, press release, summary pages, "read also"-links)
"virtual currency"	3	2	(term only mentioned in references)
"complementary currency"	3	1	(matches referring to same publication on blog, press release, summary pages, "read also"-links)
"alternative currency"	6	3	"expected to appreciate against the dollar (or whatever the alternative currency is)"
"alternative currencies"	12	6	"a euro-currency are not independent of the rate of interest on alternative currencies in the euro-market"

Tab. 3: First stage of text selection through search function on the BoE website

For the second stage, the remaining 149 matches were opened in a new browser window for an in depth screening of the search matches in the context of the text. If their fit was not obvious from the title, abstract or introduction, the browser's built-in search function was used to highlight all matches of the respective search terms within the document or webpage. At this stage redundant results (documents or web pages containing more than one of the search terms) were identified. This procedure reduced the number

of candidate texts to 60 publications, which consisted of: 21 articles from the Quarterly Bulletin (1970-2015), 12 working papers (including 4 posts on the “Bank Underground” blog which were here treated like staff working papers), 7 webpages, 9 reports, 5 speeches, 5 pamphlets distributed by the Bank’s museum and 1 magazine article. Where available as a PDF, the publications were downloaded and read and annotated with the bibliographic software Mendeley.⁶⁷ Screenshots of web pages and other online resources were captured, bibliographically indexed and imported to Mendeley using the Zotero browser extension⁶⁸ for Firefox⁶⁹ on the Linux operating system Ubuntu 16.04.LTS⁷⁰.

For the third stage of the selection process, the entire texts were cross-checked using the Mendeley full-text search to highlight the terms “money”, “currenc*”, and “defin*”. At this stage 18 publications were excluded as they contained the searched for terms exclusively in expressions that had not directly to do with the concept of money or currency per se, like for example: "definition of money market"; "definition of money at call"; " definition of stock of money"; "money supply"; "foreign currency is"; and "domestic currency is". Also, the remaining 7 web pages and 5 pamphlets carried through to this stage were excluded from the next steps in order to create a more homogeneous corpus. However, they were not discarded and will be discussed in light of the findings from the main analysis below.

The final set of 30 publications was read in detail and all passages that spoke in a descriptive or definitory manner about what money, currency or related terms are, in the sense of “constitutive statements” of the grammar of institutions, were highlighted and extracted. See final column in Tables 4 and 5 below for number of statements found in all 30 texts. These quantitative results showed a notable increase of statements about the nature of money and currency from 2013. Nearly 80% (170 out of a total of 215) of all statements found in this corpus spanning 47 years of Bank of England

⁶⁷ Version 1.17.11 - freely available from Elsevier at <https://www.mendeley.com>

⁶⁸ Version 4.0.29.22. - freely available from the Roy Rosenzweig Center for History and New Media at <https://www.zotero.org>

⁶⁹ Version 56.0 - freely available from Mozilla at <https://www.mozilla.org/en-US/firefox>

⁷⁰ Freely available from Canonical at <https://www.ubuntu.com>

publications were published in the past 5 years, between 2013 and 2017 (see Table 5), with a marked gap of no publications that matched the selection criteria between the years 2009 and 2013. The onset of this increase in statements about the nature of ‘money’ and currency correlated with a Quarterly Bulletin article on complementary currencies (Naqvi and Southgate, 2013). This appears to be coherent with one of the starting observations of this thesis that an resurgence of interest in the nature of money would have started with the popularity of some complementary currencies around that time. Hence, as a fourth step, the year 2013 was chosen as the cutoff or starting point for the collection of texts for the parsing of statements according to the grammar of institutions methodology. A total of 170 statements from 17 publications (labelled A to Q) were parsed into their “grammatical” elements according to the grammar of institutions (*attribute, deontic, aim, condition, or-else*). A table with all analysed statements and corresponding parsing results can be found in the Appendix.

	Author (Year)	Title	Type	State ments
	MPC (2009)	<i>Inflation Report May 2009</i>	Report	1
	Norat, M. A. (2008)	<i>Forecasting banknotes</i>	CCBS Handbook	1
	Burgess, S. and Janssen, N. (2007)	<i>Proposals to modify the measurement of broad money in the United Kingdom: a user consultation</i>	Quarterly Bulletin	9
	Berry, S. et al. (2007)	<i>Interpreting movements in broad money</i>	Quarterly Bulletin	1
	King, M. (2006)	<i>Speech: Trusting in Money: From Kirkcaldy to the MPC</i>	Speech	7
	Gray, S. T. (2006)	<i>Central Banking in Low Income Countries</i>	CCBS Handbook	7
	Blake, A. and Hammond, G. (2006)	<i>Monetary and Financial Statistics</i>	Monetary & Financial Statistics	3
	King, M. (2002)	<i>No money, no inflation—the role of money in the economy</i>	Quarterly Bulletin	4
	Westley, K. and Brunken, S. (2002)	<i>Compilation methods of the components of broad money and its balance sheet counterparts</i>	Monetary & Financial Statistics	1
	Miles, D. K. and Wilcox, J. B. (1989)	<i>The money transmission mechanism</i>	Working Paper	1
	N.N. (1982)	<i>Composition of monetary and liquidity aggregates, and associated statistics</i>	Quarterly Bulletin	2
	Townend, J. C. (1972)	<i>Summary of a research paper on substitution among capital-certain assets in the Personal sector of the U.K. economy 1963-71</i>	Quarterly Bulletin	1
	Goodhart, C. A. E. (1970)	<i>The importance of money</i>	Quarterly Bulletin	7

Tab. 4: Excluded elements of 3rd stage shortlist (1970-2009)

	Author (Year)	Title	Type	State ments
A	Van Hombreeck, C. E. (2017)	<i>An exorbitant privilege in the first age of international financial integration</i>	Working Paper	3
B	Barrdear, J. and Kumhof, M. (2016)	<i>The macroeconomics of central bank issued digital currencies</i>	Working Paper	17
C	Broadbent, B. (2016)	<i>Speech: Central banks and digital currencies</i>	Speech	8
D	Tolle, M. (2016)	<i>Central bank digital currency: the end of monetary policy as we know it?</i>	Bank Underground	4
E	Jakab, Z. and Kumhof, M. (2015)	<i>Banks are not intermediaries of loanable funds - and why this matters</i>	Working Paper	9
F	Haldane, A. G. (2015)	<i>Speech: How low can you go?</i>	Speech	2
G	Bank of England (2015)	<i>The Bank of England's Sterling Monetary Framework</i>	Report	1
H	Fish, T. and Whymark, R. (2015)	<i>How has cash usage evolved in recent decades? What might drive demand in the future?</i>	Quarterly Bulletin	3
I	Rule, G. (2015)	<i>Understanding the Central Bank Balance Sheet</i>	CCBS Handbook	7
J	Bholat, D., Grant, J. and Thomas, R. (2015)	<i>Monies – Joining Economic and Legal Perspectives</i>	Bank Underground	21
K	Ali, R. et al. (2014)	<i>The economics of digital currencies</i>	Quarterly Bulletin	16
L	Ali, R. et al. (2014)	<i>Innovations in payment technologies and the emergence of digital currencies</i>	Quarterly Bulletin	9
M	McLeay, M., Radia, A. and Thomas, R. (2014)	<i>Money in the Modern Economy: An Introduction</i>	Quarterly Bulletin	32
N	McLeay, M., Radia, A. and Thomas, R. (2014)	<i>Money Creation in the Modern Economy</i>	Quarterly Bulletin	11
O	Manning, S. (2014)	<i>The Bank of England as a bank</i>	Quarterly Bulletin	2
P	Naqvi, M. and Southgate, J. (2013)	<i>Banknotes , local currencies and central bank objectives</i>	Quarterly Bulletin	22
Q	Fisher, P. (2013)	<i>Speech: Current issues in monetary policy</i>	Speech	3

Tab. 5: Final elements of the corpus selected for analysis (2013-2017)

6.4 Grammar of institutions: Findings

6.4.1 Constitutive statements

The number of statements per publications varied strongly between as few as three to as many as 32. Across the 170 statements analysed, 39 *strategies*, 118 *norms* and 13 *rules* were found. Without looking at the content of the statements, the ratio of the kind of statements found here will be discussed first.

It is surprising to find so few statements of the institutional form of *rules* in the texts of the Bank of England. An archetypal statement that constitutes a *rule* would be a law that describes what someone (the *attribute*) is to do or must

not do (the *deontic*) when engaging in a certain activity or pursuing a certain objective (the *aim*) under certain circumstances (the *condition*), and what happens if this law is not followed, e.g. a fine (the *or-else*). However, there are no statements of that form in the texts analysed. What has been defined as *rules* here are statements that at least make reference to laws in what they describe so that consequences of breaking them can be expected. Therefore, the *or-else* elements in the *rules* found in these Bank of England texts mostly come in the form of “or else the law is broken”. Statement J19 is an example of this. The statement reads “As a result of the Banking Act 2009, these [Northern Irish and Scottish Bank] notes are backed in full by a combination of Royal Mint coins, BoE notes and reserve account balances”. The implicit *or-else* element here means that if a note issuing bank in Northern Ireland or Scotland would not retain enough assets of the specified kind at par with the value of notes issued, they would be breaking the law (Banking Act of 2009) and be prosecuted accordingly.

Other *rules* here found do not refer to a concise legal text but use the expressions “legally” (J15, J16), “obligated” (J17) or “are regulated” (B11) to allude to concrete laws that would bear legal consequences if not observed. Yet another kind of statement here categorised as containing an *or-else* element, does not refer to the law per se but to immediate consequences of not adhering to the statement. Statement O2⁷¹ states that certain attributes of banknotes need to be maintained (hard to forge and low inflation), or else they would lose the confidence of consumers, which as we had seen above is amongst the main priorities of the Bank of England. Some statements about local currencies (P17-P19) have the character of rules, as non adherence with what is described in the statements would entail the reappraisal of them by the Bank of England which could consequently lead to the initiatives having to comply with banking regulations that would practically make their operations impossible.⁷²

⁷¹ “The public has confidence in banknotes because of the stability in the value of money - through low and stable inflation (the focus of monetary policy) - and also because of confidence that the physical notes in circulation are genuine, can be easily exchanged and are readily available in a variety of denominations.” (Manning, 2014, p. 123)

⁷² “However, the currencies’ positioning as local initiatives, where possible not describing the vouchers as ‘notes’, and incorporating features commonly associated with vouchers such as expiry dates, may help to counteract this.” (Naqvi and Southgate, 2013, p. 323)

The second finding in regards to the categories of statements found in the texts by the Bank of England is the predominance of *norms* (118 out of 170 statement). However, 72 of these were here assigned to this category in the extended use of the deontic “it is defined” as explained in the methodology chapter. The statements thus counted as *norms* would otherwise have fallen into the category of *strategies*.

The direct or indirect meaning of the statements that was here incorporated in what is seen as a definition would otherwise, if parsed as a *strategy*, have been part of the *aim* element. This could then be paraphrased as “author(s) define X as ..., when trying to clarify the terminology they use”. One example of this is statement E9: “banks do not intermediate pre-existing loanable funds in the form of goods, but create new deposits, in the form of money, through lending.” (Jakab and Kumhof, 2015, p. 9).

The explanandum X here is ‘deposits’ and it could be read as “the authors define ‘deposits’ as ‘a form of money’ when trying to clarify the terminology they use”. This however seems to misrepresent the nature and assertiveness of the texts here analysed. Would the same statement be found for example in an interview with a non-expert, its description as a *strategy* would be more appropriate, because the definition of monetary or financial terms could be seen as a way of describing them for the ease of conversation or in reference to or the purpose of that very conversation only. In this way it is the particular backdrop of CDA to this application of the grammar of institutions that here influences the parsing not as a *strategy* but a *norm* with the implicit *deontic* “is defined as”: for the Bank of England’s audience (*attribute*) deposits (*explanandum*) are defined as (*deontic*) a form of money (*aim*) when created by a bank (*condition*). However, even without this adaptation of the grammar of institutions methodology, *strategies* and *norms* together by far outweigh *rules* (157/13) in the texts of the selected corpus.

6.4.2 *Explananda and collocations*

Another finding from the application of the grammar of institutions concerns the terms that the analysed statements describe. These are what was called the “explananda” above. Of course, the variety of search terms that were used to select the texts to be analysed in the earlier procedural steps already introduced a certain variety. Not only were two distinct, yet related, concepts, those of “money” and “currency”, the main focus, but because of this thesis’ perspective of looking at both terms from the practice of complementary currencies, additional compound search terms were introduced. By the definition introduced in Chapters 2 and 3, the terms “digital”, “virtual”, “alternative” and “complementary” all refer to subsets of the same wider practice. However, across different texts and genres, those terms appeared to be often used without reference to each other. As illustrated early on in this chapter, some of them stand in logical conflict with the common definitions of the basic term “currency” as a physical medium of exchange. However, far more than those four compound variations for the term “currency” the different screening stages of the Bank of England texts revealed a plethora of additional compound expressions that build on the word currency. Altogether 28 compound terms were identified across the screened publications, including all of the terms searched for apart from “complementary currency”.

As the following table shows, these compound terms however do not refer to a particular currency, of which of course there would be hundreds in conventional currency alone, but to some category or kind of currency. For the term money a total of 31 compound terms were found. All compound terms, both for currency and money, seem common and easy to understand. Only the terms “inside”, “outside”, “exogenous” and “endogenous” money seem to require some technical or expert understanding to make sense of. Yet the impression remains that money and currency obviously come in various forms and types, rendering the starting questions of “what is money” to appear somewhat too simplistic to answer. Indeed, across the 170 statements analysed above, the term “currency” by itself was the explanandum in only 7 cases, while 82 times a compound term was described (41 times “*currenc*”,

16 times *"*currency*"* and 25 times *"*currencies*"*)⁷³. "Money" by itself appeared 47 times as the term of interest while 77 statements said something about money in a compound term or about money and currency in some combination. A total of 56 statements treated neither money or currency explicitly but were chosen because they spoke about related terms, amongst those *"*deposit*"* (14 times), *"*banknote*"* (8 times), *"*cash*"* (6 times), *"*reserve*"* (5 times), *"*coin*"* (5 times).

Compound terms 'currency'	Compound term 'money'
foreign currency	broad money
national currency	narrow money
(global) reserve currency	central bank money
international currency	debt-based money
regional currency	high-powered money
local currency	base money
safe haven currency	digital money
domestic currency	deposit money
official currency	commercial bank money
alternative currency	fiat money
paper currency	commodity money
digital currency	two-week money
private digital currency	overnight money
CBD currency	near money
common currency	Divisia money
non-domestic currency	travel money
Community currency	private-sector base money
government-backed currency	(banks') till money
parallel currency	reserve money
currency in circulation	inside money
semi-official currency	outside money
anchor currency	paper money
traditional currency	state-issued money
home currency	endogenous money
physical currency	exogenous money
stamped currency	government-provided real money
private currency	private bank-issued money
alternative currency	private money
	privately-created money
	accelerated money
	fountain-pen money

Tab. 6: Compound terms found for money and currency found

Apart from indicating that the question of "what is money" can only be answered in a diverse and multifaceted way, the compound expressions encountered in the texts of the Bank of England call forth a critical consideration of how money is thus construed in these so called

⁷³ The asterisk represents a so called 'wildcard character' in the search terms that allows for any other character found in that position to lead to a positive search result.

“collocations”. This concept describes compound terms, or compositional phrasemes as they are called in linguistic terminology, that are firmly established in our manner of speaking. The two words they consist of become so closely associated with each other that their joint meaning is called upon even with the mention of one alone (Baker and Ellece, 2011, p. 17). This is often analysed in terms of framing (Fairclough, 2010), even for the way money and community currencies are discussed (Rice, 2014; Harrington, 2017). For an ontological question like “what is money”, these close associations give rise to another problem, particularly if one of the terms or both terms that the collocation is comprised of lack clarity by themselves. In this case, if money and currency are defined and described in conjunction with a qualifying term often enough (e.g. inside money, digital currency, see Table 6 for all found compound terms), the question of what money was, by and in itself, gets crowded out. The problem arises because of the assumption that if one can define more complicated, compound terms, the original, naked meaning of the base term would become obvious. Therefore, collocations deproblematise both terms they consist of even to the point, as seen above, that contradictions like ‘digital currency’ go unquestioned. On the question of ‘money’ in the Bank of England’s publications this phenomenon appears not as a deliberate act but nevertheless as an effect in consequence, whenever the explanandum of a statement or an entire text revolves around explaining terms like ‘broad money’, ‘fiat money’ or even ‘bank deposits’, as the next section will show.

6.4.3 Logical fallacies

The process of parsing according to the grammar of institutions does not only reveal the logic elements of the statements in which the publications by the Bank of England describe and define ‘money’, but it also allows a clearer view of the content of these statements. Beginning after the 4-year gap found in the occurrence of statements on the nature of money in the selection process (see Tables 4 and 5), the texts here selected represent a current era of more explicit communications on the topic with many cross-references to each

other. Apart from the 2013 Quarterly Bulletin on the Bank's policy mandates on so called local currency (Naqvi and Southgate, 2013), the defining moment both for this current era of texts and for the definition of the conventional money of today came in 2014 when the first Quarterly Bulletin of the year included two papers titled "Money in the modern economy - An introduction" (McLeay, Radia and Thomas, 2014b) and "Money creation in the modern economy" (McLeay, Radia and Thomas, 2014a). The message of the latter was epitomised by a tweet from the Bank of England account at the time of its publication: "97% of broad money takes the form of bank deposits – which are created by commercial banks" (Bank of England, 2014a). It captured the attention and excitement of economic commentators in the Financial Times and the Guardian with catch headlines like "Strip private banks of their power to create money" (Wolf, 2014) and "The truth is out: money is just an IOU, and the banks are rolling in it" (Graeber, 2014).

However, it is the former of the two articles that is of interest here. Instead of rehashing 'what' the Bank of England says about money in that article, the focus of the CDA lens is more on 'how' they say it. Of course, according to the hypothesis of 'money as a discursive institution', the two are necessarily related. In line with the above finding about the numerous compound terms employed by authors of the Bank when talking about money, the heterogeneity of what they deem 'money' is also expressed in the core section about the nature of 'money' in that bulletin article: "money today is a special type of IOU. To understand that further, it is useful to consider some of the different types of money that circulate in a modern economy - each type representing IOUs between different groups of people" (McLeay, Radia and Thomas, 2014b, p. 7). On the one hand, money is here not defined in itself but presented as a subset of a bigger concept, that of the quasi legalistic idea of an IOU (short for "I owe you"). Thus, conventional money is introduced as a multitude. Apart from the varying ways to measure the amount of money in circulation, particularly with what is called 'broad money' or M4 (see Westley and Brunken, 2002; Berry *et al.*, 2007), three different 'types' of money are said to exist - 'central bank reserves', 'fiat currency' and so called 'bank deposits' - which are then exemplified. In terms of logic however, the way this

is explained amounts to circular reasoning of the '*petitio principii*' kind: money is claimed to be an IOU, but to substantiate this claim different types of IOUs are used as illustrations of money - as if the claim had been self evidently true from the beginning. This circularity is also evident in the following quote in the same section of the paper: "[money] is a special kind of IOU: in particular, money in the modern economy is an IOU that everyone in the economy trusts. Because everyone trusts in money, they are happy to accept it" (McLeay, Radia and Thomas, 2014b, p. 7) - ergo: money is an IOU that everybody trusts, and because everybody trusts money, they trust the IOU.

This latter quote also relates to another idea of 'money': "Money is a social institution that provides a solution to the problem of a lack of trust." (McLeay, Radia and Thomas, 2014b, p. 8) This is of course interesting in support of the analytical framework of this thesis. However, the way in which such an institution comes about and how it provides a bridge for the assumed lack of trust remains unexplained in the article by the Bank of England. This equally amounts to a '*petitio principii*' fallacy in the sense that it is an unsatisfactory statement that is "begging the question" which makes it not so much a "fallacy of reasoning but an ineptitude in argumentation" (Encyclopædia Britannica, no date). The same of course can be said about the oft quoted and repeated "definition" of money by its functions (unit of account, medium of exchange, store of value), which has been criticised as being "vacuous" in logic terms, as it offers only a description and not a definition (Kocherlakota, 1998, p. 2), and practically unsatisfactory for example in the determination of the amount of money in an economy (Goodhart, 1970, p. 159).

The implicit authority however that allows for such arguments to pass as reliable definitions here seems very closely linked to the position that the Bank of England has in the wider discourse of money and finance. The Quarterly Bulletins are sufficiently referenced to pass as academic writing, even if the reference is to other authoritative figures from their own institutions, like referencing a speech by the former governor of the Bank of England Mervyn King (King, 2006) on the point of 'social institutions' in the quote above. This argumentative reliance on a pre-established authority of course limits the

engagement of less privileged participants and in this way the collective scope of influence on the nature of money as a discursive ‘social institution’. In the same manner other inconsistencies in terminology persist. The ambiguous use of the word currency, despite a lexical definition at the end of the quarterly bulletin article as “Type of IOU (in paper banknote or coin form), largely from the central bank to the holder of the note. Also known as: cash.” (McLeay, Radia and Thomas, 2014b, p. 12), has already been mentioned above.

The word “deposits” is another term easily exposed to possess a deceptive power when it comes to the common-sense understanding of what money is. Derived from the latin word *depositus*, meaning ‘put down’, the obvious meaning is also what is still found in expert dictionaries: “Bank deposits consist of money placed into banking institutions for safekeeping” (Investopedia, no date) or “as a noun, a deposit is *something that has been placed somewhere*. That might be money that you’ve put into your bank account or jewellery placed in a safety deposit box at the bank.” (Pritchard, 2016) However, not only since the above-mentioned Quarterly Bulletin article about how money is created by commercial banks, it has become equally accessible knowledge that the function of banks today does not rely on such funds being deposited with them: “Banks do not need to wait for a customer to deposit money before they can make a new loan to someone else. In fact, it is exactly the opposite; the making of a loan creates a new deposit in the customer’s account.” (Ryan-Collins *et al.*, 2011, p. 4)

The understanding of banks not as intermediaries, that lend deposited funds from one customer to another, but as the predominant issuer of money in the economy is nowadays uncontested. It is present in the writings of heterodox economists like Richard Werner at Southampton University (Werner, 2014) and representatives of the orthodox establishment like Michael Kumhof, senior research advisor at the Bank of England (Jakab and Kumhof, 2015). However, as long as the 97% percent of money that consumers and businesses use is called ‘deposits’, as if something else had been put in first, the understanding that banks create that money anew and unrestricted when

they credited their customers' accounts is unlikely to spread into the lay audiences understanding.

The numbers in customer accounts are a "bank's liability simply re-named a 'bank deposit'." (Werner, 2014, p. 74) In this literal sense bank deposits are no more 'deposited' than Federal Express is a federal agency⁷⁴. With this terminological paradox that requires even expert authors to recruit to expressions like 'real deposit' to mark the difference (see Werner, 2014, p. 74) a confusion at first sight is most likely to persist. For other such issues consumer protection regulation is already in place to protect the financially unsavvy from false assumption: "Account names should not mislead consumers, the FCA said" (Bachelor, 2015). How come such misleading terminology in regard to money remains unchallenged? One explanation would be special interests vested in and benefiting from misleading terminology in the discourse of 'money'. The next section explores one case in which little pretence is made to conceal such conflicting interests.

6.4.4 *Touching the void: The golden mirage*

After studying the definition, use and meaning of the term money in the publications of the Bank of England, one final aspect of their communications on the topic stands out to the critical reader: the recurrence of references to gold. Of course, in the history and popular discourse of money, gold is one of its main ingredients. It takes centre stage in the numismatic displays of museums, it appears in the role of the simple technological innovation that enhance our economies in the "myth of barter" (Graeber, 2011, chap. 1), it became the bedrock of modern banking in the lending practice of the renaissance goldsmiths (Ryan-Collins *et al.*, 2011), and is of course the epitome of riches and (good) fortune. "Striking gold" is as much the Leitmotif for such different historic and literary protagonists as pirates, prospectors, conquistadores - as it is most anybody's private dream.

⁷⁴ To employ a play on words often heard in passionate reference to the private ownership of the Federal Reserve Bank, prominently by congressman Dennis Kucinich in a special hearing in 2009: "The FED is no more federal than Federal Express." (U.S. Congress, 2009, p. 466)

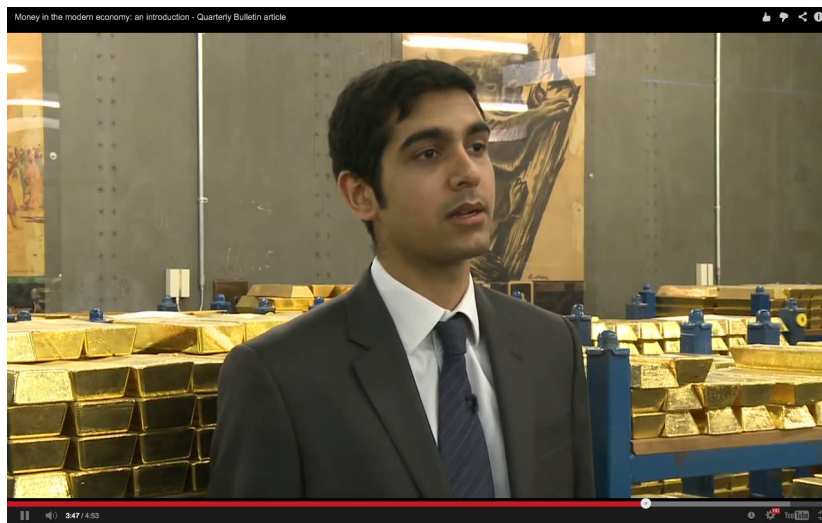


Fig. 19: Screenshot of the Bank of England summary video to “Money in the Modern Economy - An Introduction”
(from <https://www.youtube.com/watch?v=ziTE32hiWdk>)

In the paper “Money in the modern economy: An introduction”, already discussed in the previous section, gold is mentioned on all but one page (page 11), in several places its merits and advantages are discussed. Finally however, on page 8, half way through the paper, it is stated - in bold - that “Since 1931, Bank of England money has been fiat money. Fiat or ‘paper’ money is money that is not convertible to any other asset (such as gold or other commodities).” (McLeay, Radia and Thomas, 2014b, p. 8) The discussion of gold in the course of the article, as much as it is irrelevant for what money is today, appears like an echo of the past. Money today has nothing to do with it - “And yet somewhere in our imaginary landscapes gold is still the hallmark of all that is valuable.” (Mooney and Sifaki, 2017, p. 20)

The following might only surprise a critical discourse analyst with a heightened sense of alertness for framing and hidden messages. However, when the Bank, apparently in line with the new communications strategy mentioned above, summarises the very article in a format that is more likely to carry the message of their research into a broader audience - a sub-5-minute video on their YouTube Channel (Bank of England, 2014b) - gold is again all around, literally. The interview with the lead author of the article is shot in the vaults of the Bank of England, with successive rows laden with bullion filling half of the frame at all times (see Figure 19). The visual message seems to

supersede the explicit point made in the article. In the interview, the venue is mentioned, right in the opening question along with the fact that “for some periods, historically, money could be converted at the bank into gold”. Yet the interview is then turned towards the question of why one would use any kind of money at all and the disclaimer, that banknotes cannot be exchanged any more for gold is delivered only at 2:46min, close to the middle of the video which is a similar position to the treatment of the topic in the written article (on the 5th page out of 10). What all the gold bullions seen throughout the interview have to do with the topic itself, is not mentioned in the video.

Only an article in the next Quarterly Bulletin (Q2 2014) mentions this explicitly: “The Bank is one of the largest custodians of gold in the world, with over 400,000 gold bars stored in its vaults. Safe custody is provided for customers including the UK Government and overseas central banks.” (Manning, 2014, p. 129) In fact the Bank of England itself legally owns only one bar of gold: “It’s in the museum, and you can touch it.” - as I was told personally during a research visit. This refers to the well known attraction in the museum’s Rotunda room where a perspex glass box with a little round opening allows visitors to lift a genuine gold bar a few centimetres into the air. The same mismatch between what is shown and what is not appears to have been at play when the Queen visited the Bank of England in December 2012, for the 9th time (BBC News, 2012). She inspected the vaults and picked up on her famous question from just after the financial crisis of 2008: “why did nobody notice?” (Melendez, 2012) and later commented on the fact that the gold she had been shown during her visited had little to do with the state of the economy or the role of the Bank of England in it: “I gather not all the bars belong to us” (Walters, 2012).

So why is gold ever present and shown to the Queen and her people alike? One answer can be found in the mandate of the Bank of England to ensure monetary stability (see Gray, 2006, p. 54). It requires the Bank to ensure “that people are confident that the banknotes they hold are worth their face value” (Naqvi and Southgate, 2013, p. 232). In light of this prerogative the gold in the vaults, even if unrelated to those very banknotes, still serves a purpose; and

so does the Queen gazing at it in the presence of cameras and reporters. Even the creation of the illusion of solidity, reliability and gravitas, all with a golden hue, is part the Bank's fulfilment of its policy objectives, achieved by communication tools and with the collaboration of other powerful institutions. And the ultimate addressee of those measures is everyone. Not only the Queen's subjects in the UK, but because of the weight of the UK economy and the Pound in the international markets, people all around the world depend, more or less heavily, on the maintenance of this golden mirage. Because, as the Bank asks on a part of its website that will be analysed more closely in the concluding section of this chapter: "So what gives modern banknotes their face value? Trust." (Bank of England, 2016b).

6.5 Conclusions: Money made simple

Concerned with the undemocratic way most of our money supply is currently issued and trying to find a more coherent theory to model alternatives, Randall Wray, one of the founding fathers of the so called school of Modern Monetary Theory (MMT) writes "Simple stories - Crusoe and Friday agreeing to use seashells as a medium of exchange - simplify difficult concepts and also draw attention to the lesson the speaker wishes to teach." (Wray, 2012a, p. 3) Indeed, two years later that exact framing is found in the seminal article by the Bank of England that was discussed in the previous section: "While Robinson Crusoe and Friday could simply swap berries for fish - without using money - the exchanges that people in the modern economy wish to carry out are far more complicated." (McLeay, Radia and Thomas, 2014b, p. 6) The two island dwellers are also the starting point for the graphic illustration of the history of money on the title page of that same paper. It appears that this friendly and positive way of telling a story about money counterweights the potentially inconvenient truth espoused later on the paper, even if this 'barter story' of money lacks backing in historical and anthropological research as much as modern money lacks backing in gold (Graeber, 2011).

The same graphic, with Crusoe and Friday, as protagonists was re-employed in September 2016 with the explanatory text that continues the story of

Crusoe and Friday from the paper and fits in well with the above speculation about its soothing nature: “Because of these complications, using money is an easier and safer system for all involved.” (Bank of England, 2016b) This latter publication pertains to a collection of short web pages published by the new “Public Understanding Team” of the Bank under the title of “Knowledge Bank” (Bank of England, 2016a). The graphics and video material produced for this new online platform are now also used on the Bank’s main website, providing a dash of colour on an otherwise sober website, for example on its headline page “What does the Bank do” (Bank of England, 2017b), second link down in the main navigation menu. The YouTube subtext of a series of animated videos from 2013 explains how they try “to explain the Bank’s roles and responsibilities in an accessible, imaginative and entertaining way.” (Bank of England, 2013)⁷⁵

However, even without paying particular heed to the infantilising way the Bank of England frames and presents its answers to the questions here asked, the bottom line on “what is money” from reading their publications closely still surprises. In the end, money is described as an amorphous phenomenon, consisting of several types and forms. Even towards the term currency, despite its narrow lexical meaning, the Bank seems to have a surprising openness. The parsing according to the grammar of institutions methodology revealed that it is not so much *rules* established in law but mostly *norms* that define ‘money’ as a discursive institution in the publication of the Bank of England. Furthermore, as the lens of CDA highlights, those *norms* depend on the authority stating them. In this, money - as we know it - seems much closer

⁷⁵ This is not the only place where the Bank exposes an uncritical explanatory engagement with its topics which does not even require a sensitive critical reading to appear alarmingly ideological. In the last Bulletin of 2014 an article that asks “Why is the UK banking system so big and is that a problem?” (Bush, Knott and Peacock, 2014) answers, or rather begs the question by stating: “The United Kingdom’s economic and financial dominance continued in the 19th century, helped by globalisation, industrialisation and war [...] attributing [London’s rise as a financial centre] in part to the United Kingdom’s dominance in world trade during that period and in part to a dose of luck.” It is left to others to acknowledge how those same wars were started by the East India Company as a form of privatised ‘department of colonisation’ and the timely luck of the UK at the time consisted of owning gun-boats before the Chinese who tried to ban the wholesale trafficking of drugs into their country by that same corporation with chartered by the crown - all to restore the UK’s silver reserves which were depleted by the increased import of Chinese tea and other luxury consumables, which again illustrates how intimately questions of money are linked to power (Robins, 2006).

in its nature to the currencies analysed in the previous chapter, a discursive practice rather than a clearly defined matter. In the end, a sentence in the very paper that was discussed in detail above indicates just that: “But despite its importance and widespread use, there is no universal agreement on what money actually is.” (McLeay, Radia and Thomas, 2014b, p. 5) No wonder, that the recent deputy governor of the Bank, Ben Broadbent, opened one of his speeches on the topic of digital currencies with a quote from the 1930s LSE professor John Hicks: “It is with peculiar diffidence and even apprehension that one ventures to open one’s mouth on the subject of money.” (Broadbent, 2016, p. 1)

This makes the novel Bank of England communication strategy and its simplifications even more problematic in regard to what has been called a ‘public currency’: not in the meaning of the public being involved in determining their preferred kind of money (or currencies), but in the performative sense that monetary policy today requires the public’s ‘buy-in’ to maintain confidence in the national currency. Every measure and any story, as far removed from today’s banking practice as it may be, might be recruited to that end: “At the heart of [the idea of a ‘public currency’] is a far-reaching premise: the public broadly must be recruited to collaborate with central banks in achieving the ends of monetary policy, namely “stable prices and confidence in the currency.”” (Holmes, 2014, p. 16)

The findings of this chapter thus support the proposition of Money and currencies as discursive institutions that rest as much on set (monetary) rules, but also on the norms and strategies implicitly or explicitly established in all forms of communications. This implies new avenues for research and monetary theory that will be further drawn out in Chapter 8, Section 1 and 3. The power and authority of central banks lends their communications and publications a particular weight. However, the lack of clear and coherent definitions of Money found in these communications constitute a discrepancy or even conflict for central bank’s mandate. On the one hand, one of their roles is to ensure the stability of the national currency which rests to a large degree on the confidence and trust that the public and financial market actors

place in it. However, in the absence of robust definitions of Money the framing, analogies and imagery used to engage lay and expert audiences can be seen as inconsistent or even obfuscating. In general the move of central banks towards transparency and making information more accessible for all audiences needs to be lauded. Oversimplification and the adherence to outdated stories however can also be seen as a form window dressing that might ultimately have adverse effects, particularly when the questions posed by phenomena like complementary currencies cannot be answered satisfactorily. The legal and compliance issues of non-bank currency initiatives that were highlighted in the previous chapter are a strong indication that such questions exist and implications for policy and regulation that stem from these questions will be proposed in Chapter 8, Section 2.

For now, however, benefit of the doubt needs to be given as the topic of 'money' might simply be too complex to allow for accessible and coherent communications, even if clear and consistent definitions existed. As central bank policies and regulatory compliance are ultimately based on legal provisions, the law itself appears to be the discursive space to turn to for ultimate answers about the nature of 'money' (compare Bholat, Grant and Thomas, 2015). For this reason, the last analytical chapter will analyse legal texts as to their definitions of 'money' and 'currency'.

7 Mapping a blindspot - Lawful money and lawless money

Despite its importance and widespread use, there is no universal agreement on what money actually is.

*Bank of England:
Money in the modern economy, 2014*

The argumentation of this thesis has so far related increasing variability (Chapter 5) and ambiguity (Chapter 6) to the notion of Money and its implementations across different discourses. Accepting that Money and money are as much discursive institutions as are baseball or marriage (Searle, 2010), and realising that such an eminent guardian of finance as the Bank of England admits to its conceptual vagueness, prompts the question of how we are able to keep our lives and the global financial system running day to day if something so fundamental as ‘money’ has so little reliable definitory reference - let alone how to overcome the fundamental limitations our current financial system is riddled with. Is it just a matter of collective delusion, and all it takes is for someone to pull the curtain aside as happened in *The Wonderful Wizard of Oz*?⁷⁶ Or is ‘money’, as Professor Emeritus Urs Birchler (University of Zurich, Department of Banking and Finance) describes it, a “fairytale that becomes reality if we all believe in it” (Sunflower Foundation, 2015). In face of the regulators’ ambiguity found in the previous chapter, the law and statutes of financial regulations themselves seemed to be one last domain where to look for an answer to the question of what ‘money’ is, as it is “a place one should expect to find precision and accuracy” (Mooney and Sifaki, 2017, p. 20).

⁷⁶ This is, according to journalist and filmmaker Bill Still more than a cultural allegory: in his documentary “*The Secret of Oz*” (Still, 2009) Still argues that the wizard’s author L. Frank Baum deliberately employed well known imagery and metaphors in his 1900 children’s novel “*The Wonderful Wizard of Oz*” to highlight monetary and political decisions to do with money creation, backing the dollar with gold or silver and the rechartering of the Federal Reserve. Also compare David Graeber (2011, pp. 53–55).

This last analytical chapter will inquire into what clarity can be found in law about ‘money’ and whether it offers a definition sharper than in other domains. For this, the laws of the United States of America will be read closely in regards to how they define a bank, ‘money’ and ‘currency’. The final section will juxtapose this with findings related to the legal situation in Europe.

7.1 Historical developments of ‘money’ and banks

Working in collaboration with lawyers in SELC in Oakland, California, an attempt to get an overview of the US financial regulation landscape and the definitions of ‘money’ therein began with trying to understand how the law views and categorises the world of finance in general. Similar to the way the financial system is pictured and discussed in everyday language, the dominant approach here was to distinguish between the organisational categories in which financial service providers are grouped. In the law as in everyday language, a fundamental distinction runs between businesses that are called banks and those that are not. Despite a perceived increase in the number, diversity and importance of financial services providers that are not licensed as banks (Bank of International Settlements, 2014), this distinction is still firmly followed in financial regulations. In technical economic parlance the latter institutions are often described as “nonbank banks” (Investopedia, no date) while in the US regulatory arena they are referred to as “Alternative Financial Services” (AFS) (Bradley *et al.*, 2009), a term that further reaffirms the primacy of banks.

Yet, in the statutes and laws of the US, the definition of what a bank is comes down to describing what its activity, or ‘banking’, is, or in effect, what a bank *does* (Haubrich and Santos, 2003, p. 147; Berthe, Gan and Nolle, 2005, p. 11). This follows in line with the history of banking as the practice of lending and financing, particularly since the European Renaissance (Ferguson, 2008, chap. 1). However, the technical language found in the law does not clearly reflect the current unique role and importance of companies with a banking licence in our economies today (Jakab and Kumhof, 2015). As they *de facto* monopolise the creation and allocation of liquidity to specific sectors without

central banks having a significant influence on this process (Ryan-Collins, 2015, p. 2), one might expect a clear and concise definition that also relates to concepts of 'money' in the law. However, such an explicit distinction that connects the institutional definition of a bank with the definition of 'money' was not found. The history of banking in the consolidated USA (after the Civil War) is marked by two significant developmental steps, one starting with the establishment of a nationally aligned banking system from 1863, and fifty years later, the foundation of the Federal Reserve system which continues until today (Solomon, 1996, p. 60).

The federal statute that launched the first step was the National Bank Act from 1863/64. Before this time, all bank charters were granted by individual states. The original act (U.S. Congress, 1864) describes the new federal oversight agencies that controlled these new companies which were to operate across all states (U.S. Congress, 1864, section 1). The Office of the Comptroller of the Currency (OCC)⁷⁷ was one of the federal institutions that was created by this act and still exists today. It also specifies the minute rules for the procurement of capital and ongoing liquidity requirements (from section 12) and the administrative provision "to carry on the business of banking by discounting and negotiating promissory notes, drafts, bills of exchange, and other evidences of debt; by receiving deposits; by buying and selling exchange, coin, and bullion; by loaning money on personal security; by obtaining, issuing, and circulating notes" (section 8, U.S. Congress, 1864, p. 101).

Across the whole of the text of the National Bank Act there are 2,143 instances of the word "banking", which highlights the procedural characteristic of what was thus established as a new form of a bank. In contrast, the word bank itself appears only 21 times - never in an explanatory sense, but always in reference to one of the individual organisations which were to be chartered by this new legislation. This illustrates how the concept of what a bank was, did not seem to require any further definition at the time. Only the change in the nature of how these new banks were to set up and operate needed to be

⁷⁷ See <https://www OCC.treas.gov> [last accessed 19.01.2018]

established. In regard to ‘money’, the title of the act describes the purpose of these new banks as “issuing a National Currency, secured by a Pledge of United State Bonds, and to provide for the Circulation and Redemption thereof” (U.S. Congress, 1864, p. 99). As commonplace as this seems today, it was a novelty compared to the reality up to that moment, which saw thousands of notes from different state chartered banks in circulation: “eight to nine thousand different-looking pieces of paper, each with the name of a bank on it and a number of dollars which the named bank promised to pay in coin if the note were presented to it.” (Sylla, 2010). Furthermore, the US Constitution determined all of them had to be backed 1:1 by their nominal worth in gold or silver (Solomon, 1996, p. 81). Article 1 of the Constitution still says:

“No state shall enter into any treaty, alliance, or confederation; grant letters of marque and reprisal; coin money; emit bills of credit; make anything but gold and silver coin a tender in payment of debts; pass any bill of attainder, ex post facto law, or law impairing the obligation of contracts, or grant any title of nobility.” (U. S. Constitution, 1788, art. 1 § 10)

Therefore, at the time when the United States were consolidating their territories geographically across the whole continent, such notes, valid homogeneously across the whole nation, did in effect constitute something akin to what today is called a ‘national currency’. In contrast with the way United States Code (U.S.C.) statutes are written today, no preamble explaining the used terminology was added to congressional acts at that time. Hence, it is more difficult to determine concisely what the individual terms given in the quotes above refer to. However, a full text search of the National Bank Act reveals sufficient context to say something on the usage of “money” and “currency” and thus infer their meaning. The word “money” appears 48 times in the 64 sections of the act. Nearly half of those (22) come in the compound term “lawful money” referring to the “Greenback” notes issued by congress (see Solomon, 1996, p. 62). To give an example, the new national banks “shall, at all times, have on hand, in lawful money of the United States an amount equal to at least twenty-five per centum of the aggregate amount of its notes in circulation and its deposits” (section 31, U.S. Congress, 1864, chap. 108). The other 26 mentions of the word “money” appear in various generic contexts including, but not limited to, the new notes to be issued, for

example in the sense that the national banks are “hereby authorised to issue and circulate the same as money” (section 23, U.S. Congress, 1864, p. 106).

The word “currency” appears with a very similar frequency, 50 times altogether. Although here the vast majority of mentions (44) are in the name given to one of the new regulatory agencies, the office of the comptroller of the *currency*. The other six examples describe the new notes to be issued by the national banks. In functional proximity to the coins, then and now only issued by governments, the term currency hence is only employed for notes that are licensed and circulate at that same national level. The many thousands other kinds of bank notes issued at the time would therefore not be recognised as currency.

To further understand the ancestry of the practice of “banking” today and its relation to the issuance and handling of money in the legacy age of the National Bank Act, it is important to look into the history of the dominant national banks in the USA today. In several prominent cases their business derived from the shipping and safeguarding of physical forms of money. The name *American Express*⁷⁸ still directly indicates this, as does the stagecoach imagery of the logo of the *Wells Fargo*⁷⁹ bank. Both these companies started out in the middle of the 19th century (in 1850 and 1852 respectively) as express mail companies, with American Express serving the eastern and Wells, Fargo & Company predominantly serving the western United States (Engstrand, 2013). Their service infrastructure allowed them to not only handle conventional freight but also precious cargo like banknotes, bonds, coins and other precious metals. In the case of Wells Fargo it was the higher demand for safeguarding of the latter and related payment services during the California Gold Rush that led to the explicit inclusion of banking services in their early company portfolio (Engstrand, 2013, p. 23).

Both businesses were unregulated in the young state of California (Solomon, 1996, p. 62) and the accelerated growth in demand for banking services led to its organisational division from the freight business, first in the physical

⁷⁸ See <http://ir.americanexpress.com/FAQ> [last accessed 18.01.2018]

⁷⁹ See <https://www.wellsfargo.com> [last accessed 19.01.2018]

division of the respected offices in San Francisco in 1891 (Loomis, 1968, pp. 236–238). The two branches were finally incorporated as two separate legal entities in 1905 (Loomis, 1968, p. 284). In the end, both American Express and Wells Fargo had to give up their domestic freight business in 1917/18 when the US government took control of the transportation infrastructure during World War I. Their banking businesses, however, continued to flourish.

Even if the cases of American Express and Wells Fargo are not entirely representative for the diverse history of banks and banking in the United States altogether (see Bodenhorn, 1990), they illustrate how the business of banking and the handling and issuance of physical forms of money are closely linked in their origins, not only in America. The origin of banking is often attributed to medieval goldsmiths and their facility for the safekeeping of their customers' coins in their on-site vaults. The subsequent issuance of paper slips confirming the deposit of a certain number of coins, including the promise to return those on demand (promissory note), eventually started to circulate instead of the gold in the vaults (Ryan-Collins *et al.*, 2011, pp. 71–73).

Disregarding the various monetary practices in the colonies and the early United States⁸⁰, the issuance of Greenbacks as 'lawful money' by the US congress can then be seen as the inception of the era of unbacked 'fiat' money in the consolidated United States. Until that time the dominant form of paper money, including that issued by Wells Fargo, American Express and the like, derived its reliability and acceptance for commerce predominantly from precious metals in form of bullion and specie that the issuing banks held "in reserve" - in direct continuation of the practice of goldsmiths earlier (Solomon, 1996, pp. 60–61). Consequently, the establishment of different bank charters and their ability to issue notes of different kinds and validity through the National Bank Act had a direct influence on what was then considered money and currency.

⁸⁰ This intermediary period, with a variety of practices imported from Europe, alongside innovative issuances, were excluded from this study as the direct lineage of the current monetary legislations was deemed to start with the foundation of the United States. For a comprehensive account of these (see Davies, 1994, chap. 6; Zarlenga, 2002, chap. 14; Wright, 2008).

In 1913, the Federal Reserve Act established the central banking system for the geographically and politically consolidated United States (U.S. Congress, 1913), including the exclusive issuance of dollar notes by the FEDs⁸¹, which resembled the appearance of Dollar notes today. In that act, the term “money” appears sixteen times, nine of these in reference to “lawful money” as discussed above. The other instances refer to money held in reserve at the FEDs or the treasury and it remains unclear without further study if these were only ‘lawful money’ or include other notes and assets as well. Three times, in the context of reserves and assets held by the banks to be established or the treasury respectively, the plural “moneys” is used (U.S. Congress, 1913, pp. 4, 17, 18). This could, on the one hand, support the notion that reference to ‘money’ here meant more than just ‘lawful money’, or it could refer to ‘lawful money’ having accumulated from different sources, in the way that the term ‘monies’ is commonly used today: “amounts of money” (Cambridge University Press, no date).

The FED act is related to an act from 1900, called the Gold Standard Act or, as its original title reads: “An Act to define and fix the standard of value, to maintain the parity of all forms of money issued or coined by the United States, to refund the public debt, and for other purposes” (U.S. Congress, 1900). The wording of that act and periodic vagaries of varying relations of the US notes to gold or other precious metals until all backing was finally abolished in a presidential order by Richard Nixon in 1971 (Elwell, 2011, p. 13) will not be analysed here. However, the wording of the title indicates that the plural of ‘money’ could at the time have only referred to different forms or iterations of notes issued by congress and the treasury, without including banknotes issued by private banks.

The FED Act uses the term “currency” 37 times, but 33 of those are again in the title of the Office of the Comptroller of the Currency, which after being founded in the National Bank Act discussed above continued, until today, to be the primary regulatory body concerned with the issuance of money in the

⁸¹ The acronym FED does not refer to one (central) bank, but a network of shareholder banks, all chartered as an integral part of the Federal Reserve system. Hence if used in plural (FEDs) below it refers to the currently 12 regional Federal Reserve Banks.

US. The word “currency” is only mentioned once in regard to the notes to be issued by the FEDs (U.S. Congress, 1913, p. 1), and the remaining three times in the context of the notes issued by national banks chartered by the National Bank Act (U.S. Congress, 1913, pp. 13, 26, 29). With this, the term currency is here used coherently as the notes put into circulation by banks mandated by the government.

Chronologically, this inquiry has now reached the basis of today’s financial landscape’s topography including the legal notion of ‘money’ that still serves as the basis of current legal discourses. However, contemporary with the National Bank Act, the commercial deployment of the telegraph technology had emerged and was poised to not only revolutionise the way information was transmitted across long distances, but also to go on and revolutionise banking. The widespread use of telegraph transmissions of news and personal messages from the middle of the 19th century brought about the quick demise of the now legendary Pony Express Service that hauled small volumes of messages and important papers across the American continent within ten days. Wells Fargo Company was involved in the last six months of the service’s existence, but the service was made redundant simply by the installation of a continuous cable run across the breadth of the United States in 1861 (Engstrand, 2013, p. 27).

Eventually this also had fundamental implications for the way payments and banking as a whole was conducted. In 1918, the Federal Reserve System started to use morse code to realise the first long distance electronic payments (Federal Reserve, 2014, p. 7). If all payments to that date relied on a physical medium of exchange of some sort, be it coins, precious metal or banknotes, the electromagnetic representations of those not only changed the practicalities of money transmission, but would also be required to be reflected in the definition of ‘money’ in the law. Today’s modern payment and banking practices are fundamentally different then during the time before telecommunication, and this has consequential bearings on the meaning of the term scrutinised here.

Taking this into account, a final more modern legal landmark of the changing landscape of banks and 'money', the Bank Holding Company Act (U.S. Congress, 1956) will now be discussed. In its current form, as part of the federal statutes called the 'U.S. Code', it defines a bank as one of two things: either a company with federally insured deposits or a company that makes commercial loans (12 U.S.C. § 1841 (c), see U.S.Code, 2017b).

Deposits are defined in a preceding chapter of the U.S.C. as the "unpaid balance of money or its equivalent received or held by a bank or savings association in the usual course of business and for which it has given or is obligated to give credit" (12. U.S.C. § 1813 (i)(1), see U.S.Code, 2017a). The openness of the term "deposit" introduced by the formulation "money or its equivalent" is further illustrated as the definitions continue. Deposits not only occur in the process of converting a note into an account entry of 'credit' but also the consecutive receipt of such credit entries constitutes a deposit: "money received or held by a bank or savings association, or the credit given for money or its equivalent received or held by a bank or savings association" (12 U.S.C. § 1813 (i)(3), see U.S.Code, 2017a).

This appears in line with the common description of bank balances as 'deposits' even when no centrally issued money, in form of coins, notes or central bank money, but simply a loan contract between a commercial banks and its customers has been the origin of these 'deposited' units. In this sense the extension of loans by commercial banks today is in fact the creation of deposits (compare Jakab and Kumhof, 2015), which equal new units of money. Even if they come to exist only on the balance sheets of banks, their fungibility with notes and coins and their dominance in our everyday payments both in volume and number of transactions, consolidates their treatment as money (compare McLeay, Radia and Thomas, 2014b). However, since they are not fully equivalent to the money issued by central banks or the treasury, both descriptions of what a bank *is* found in the Bank Holding Act ultimately relate to the convertibility of bank deposits into cash, in the worst case by the *Federal Deposit Insurance Corporation* (FDIC)⁸². This entity was also founded

⁸² See <https://www.fdic.gov> [last accessed 19.01.2018]

in 1913 through the Federal Reserve Act discussed above. By guaranteeing, in case of bankruptcy of a commercial bank, the convertibility of the money created by that commercial bank to the money created by the FED and the treasury, at least up to 250 thousand dollars per account holder (FDIC, 2018), this scheme provides for the practical equivalence of these different units - at least where the common understanding of those instruments and their everyday use are concerned. This makes it necessary to be clear on the expansion of the term 'money' away from just referring to 'currency', but also makes the situation actually found in the law today confusing (see Proctor, 2012, pp. 6–7) and inaccurate under the scrutiny of this thesis.

7.2 'Money' and 'currency' in modern statutes

To state one of the findings upfront, it did not come as a surprise that the definitions of 'money' in the laws and statutes of the USA were neither straightforward to determine nor coherent within or across different texts.

To give a first impression, Gillette et al. open their over 600 pages textbook on payment systems saying that “The subject comes complete with a long and intricate history; an esoteric language [...]; and a dependence on technological developments that require constant accommodations in legal doctrine” (Gillette, Scott and Schwartz, 2007, p. 1). Their subsequent analysis of payment instruments is derived from the foundational process and simplistic notion of paying somebody in “cash - or what is commonly called ‘money’” (Gillette, Scott and Schwartz, 2007, p. 1) over the counter. They substantiate this equation of cash and money by citing the definition of 'money' in the US Uniform Commercial Code (UCC) which reads: “a medium of exchange authorised or adopted by a domestic or foreign government”; and they describe the different derivative forms of payment, such as cheques, debit and credit cards as “money substitutes” (Gillette, Scott and Schwartz, 2007, p. 1). Despite having put the single word money into inverted commas first, the introducing of the compound term 'money substitutes' for non-cash payment forms reinforces how they see cash and money as equivalent terms, at least for the practice of law.

Their argument means that they are interpreting the term 'medium of exchange' in the UCC to mean only notes and coins, which of course contradicts both the everyday experience of using our electronic bank balances to pay for goods and services, as well as other expert readings on the matter (compare Yang, 2007, p. 201). Yet, Gillette et al. uphold their limited reading, and its inherent difficulties by asserting that in law 'money' is really only considered to be cash by juxtaposing it with its presumed meaning in the economics literature, where they say that 'money': "has a broader definition: it consists of whatever is accepted in exchange for goods and services." (Gillette, Scott and Schwartz, 2007, p. 1; compare also Fox, 2011, p. 146).

Applying this question to Whaley's 2006 edition of "Commercial Paper and Payment Law" one finds a reference to the same UCC definition as in Gillette et al., but with an addition that is not found in the current version of the UCC: "a medium of exchange authorised or adopted by a domestic or foreign government *as part of its currency*" (Whaley, 2013, p. 15 - my italics). An internet search for this quote revealed it being used in various legal textbooks and study guides as recently as 2012, hence it appears that this last part of the sentence seems to have been omitted from the UCC only recently. The current UCC definition however continues to state that "[t]he term [money] includes a monetary unit of account established by an intergovernmental organisation or by agreement between two or more countries." (U.C.C. § 1-201 (b)(24), see Uniform Commercial Code, 2017) This use of the term 'unit of account' does of course immediately contradict the equation of money with cash as seen in Gillette et. al and Whaley. The reference to currency in the previous version of the UCC explains however why the equation of money and currency pertains in legal treatises on the topic.

What then does the word currency mean in the law of the USA today? The Code of Federal Regulation (CFR) defines it as this: "The coin and paper money of the United States or of any other country that is designated as legal tender and that circulates and is customarily used and accepted as a medium of exchange in the country of issuance. Currency includes U.S. silver

certificates, U.S. notes and Federal Reserve notes. Currency also includes official foreign bank notes that are customarily used and accepted as a medium of exchange in a foreign country.” (CFR § 1010.100 (m), see Code of Federal Regulations, 2017) This definition of currency as the tangible forms of money (notes and coins) aligns with the explicit definitions found in the UK (compare McLeay, Radia and Thomas, 2014b, p. 12).

However, this very simple and clear definition of the term currency would mean that the equation of money and currency as found above would be impossible, unless one were to accept that, legally, only cash is considered money - and that the electronic bank balances that we use for most of our payments, both in number of transactions and volume, are not money. For now, we will need to accept that our everyday understanding and the economists’ views on the matter of money might differ from a legal understanding, even by such a large margin (Bholat, Grant and Thomas, 2015). Gillette et al. confirm this as they follow on from their passage quoted above: “In the economists’ definition, governmentally approved or issued currency constitutes only one subset of money, called ‘fiat money’ [...]”, which “takes the form of pieces of paper that are worthless in themselves” (Gillette, Scott and Schwartz, 2007, pp. 1–3). Therefore, it would indeed seem that electronic bank balances are money to economists but not to the legal profession.

However, the term ‘fiat money’ that was introduced in that last quote seems to provide yet another synonym for the legal definition of money and currency. Indeed, no governmental definition of the term ‘fiat’ that would extend beyond notes and coins was found in my research (compare Naqvi and Southgate, 2013; Velde, 2013). There is a second reading of that term, that is often implied in how authors writing about complementary currencies use it: a monetary unit, physical or electronic, that is not redeemable with the issuer for an underlying asset. If the agendas of several governments to abolish cash altogether were to come to pass (Mason, 2016) it would be odd to assume that the former narrow definition of ‘fiat’ would not be abandoned, too - as if

the remaining electronic units would not have always had a fiat character akin to that of the second definition, just like cash.

However, by the idiomatic ‘letter of the law’ it appears that ‘money’ in the laws of the United States is defined, along with ‘currency’ and ‘fiat’, simply as the notes and coins issued by the US treasury or the FED respectively. It is only the mention of intergovernmental “units of account” by the UCC that seems to diverge from that definition. The situation in Californian statutes mostly reflects or even copies the wording of the federal code (see SELC, 2014b). Only in the California Code of Civil Procedures, in the “Uniform Foreign Money Claims Act”, has a slightly different definition of money defined as: a medium of exchange “for the payment of obligations” (Cal. Code Civ. Proc. § 676.1 (7), see California Code of Civil Procedures, 2017). This procedural addition reflects the relevance of payment and the discharge of debt in commercial legal claims. Following this cue, the analysis will now turn to the usage of the definitions thus far described in the practice of regulating and ruling on monetary issues in the United States, with examples from the practice of complementary currencies.

As seen in the legal and compliance research of the CCIA project, the practice of complementary currency issuance presents various questions as to what laws apply, and how. In addition, when it comes to financial law the decisive question is whether CCs are deemed to be ‘money’ and thus need to comply - or not (compare CCIA, 2015d). Many forms of CCs have existed for many years without raising the concerns of the legislator, regulator or prosecutor in the US and elsewhere. Two prominent exceptions to this statement in the US context are noteworthy.

In 2011, after several years of court proceedings, Bernard von NotHaus was convicted for the issuance of silver coins that he called “Liberty Dollars” (FBI, 2011). The case had been followed by many actors in complementary currencies for fear of having wide-ranging consequences for other currencies. However, thus far no other cases have been brought on any other currency issuer. The case was distinct from the practice of other complementary currencies in that the coins he minted resembled federal currency in the use

of their imagery (the Statue of Liberty) and the use of the term and symbol of “Dollars”. Despite having many features distinct from federal coins and the clear statement of the silver weight on each coin (e.g. 174 ounce on the 5\$ Liberty Dollar), this provoked the allegation of forgery. However, seemingly independent of the potential of confusing users of Liberty Dollars as to the origin and value of the coins, the state attorney proclaimed that currencies like the one of von NotHaus amounted to attempts “to undermine the legitimate currency of this country [and] are simply a unique form of domestic terrorism” (FBI, 2011).

Another case, in the late 1970s, in which the issuance of complementary currencies caught the regulator’s attention and threat of prosecution, was the Internal Revenue Service (IRS)⁸³ inquiry into the possibility that the use of business-to-business (B2B) currencies constituted a tax fraud. The issue provoked the formation of the International Reciprocal Trade Association (IRTA) as an industry representative body that allowed for a concerted strategic defence and dialogue with the IRS. In the end it was deemed legitimate for businesses to trade with B2B currencies that followed the ‘mutual credit’ model, and a separate tax form (1099B) was developed for the reporting of such income (IRTA, no date c). The IRTA has continued to argue in favour for the differentiated treatment of B2B currencies ever since. Recently the federal requirement for cryptocurrency exchanges to register as ‘money transmitters’ in the USA was so broadly formulated, that it prompted IRTA to state how B2B mutual credit currencies are, in effect, “not money” in order to be clearly exempt from this regulation. In their framing, operators of such currencies are not “issuers” of currency, but third party record keepers that record the trades and balances of businesses trading in their networks (IRTA, 2016).

The latter example shows how the term currency is even in legal practice today not exclusively accepted in reference to material media of exchange, but also how the question of what is considered ‘money’ by regulators has seen novel attention since the emergence of *Bitcoin* (Bholat and Darbyshire,

⁸³ See <https://www.irs.gov> [last accessed 19.01.2018]

2016). The attention to currency innovations by regulators, epitomised by the US Senate Hearing on Bitcoin in November 2013, correlated with the increase in price, and number of media mentions and the sentiments those expressed (Polasik *et al.*, 2015). With the media repeating the terminology introduced by Bitcoin advocates and enthusiasts, like ‘virtual currency’, ‘digital currency’ or “a new kind of money” (Bitcoin.org, no date f), the baseline framing and terminological space for the ensuing discourse amongst regulators, law enforcement agencies and economists was already determined (Vergne and Swain, 2017, p. 98). Consequently, given the vague or even contradictory definitions of the terms money and currency that we have observed so far, it was not surprising that the way commentators talked about it was neither conclusive nor coherent. On an expert panel (Chatham House, 2013) with a representative of the global credit card payment processor Worldpay, a journalist from the Financial Times, a consultant to the payment system industry, the executive director of the Bank of England at the time, and myself, the only certain finding was how there was no fundamental agreement on the question of whether Bitcoin constitutes ‘money’, a ‘currency’, a new ‘asset class’ or something completely different - or if that question was even posed sensibly.

With a further increase of its market value and newly emerging cases of criminal activities involving Bitcoin payments, not only regulatory and legislative agencies but also the courts were soon presented with the question of categorising this new phenomenon. A landmark court case was the *US Securities and Exchange Commission* (SEC)⁸⁴ suing the founder of a Bitcoin related website for fraud against the people who used the website to purchase and hold Bitcoins with the expectation of a financial return (Greene, 2013). Curiously, the defendant argued that Bitcoin has nothing to do with money and because of this the SEC and the courts had no case in this. On the face of it, his website operated in the classic form of a Ponzi scheme through which newly paid-in funds provide the capital to pay previous investors. This only works as long as new people buy into it. Thus, it was not surprising that the courts affirmed their position and convicted the operator of

⁸⁴ See <https://www.sec.gov> [last accessed 19.01.2018]

the scheme. In the argumentation however, judge Mazzant took to likening Bitcoin to 'money' and 'currency', saying: "Bitcoin is an electronic form of currency unbacked by any real asset and without specie, such as coin or precious metal. [...] It is clear that Bitcoin can be used as money. It can be used to purchase goods or services [...]" (Mazzant, 2013, p. 3) Through the use of the comparative "as money" this still holds a certain openness as to the definition of both terms, money and currency, or their equivalence. Although in continuation he concludes more definitely: "Therefore, Bitcoin is a currency or form of money and investors wishing to invest in [the defendant's online platform] provide an investment in money." (Mazzant, 2013, p. 3)

The functional or phenomenological statement 'can be used as' is a novel approach to defining money that provides a greater openness than the definitions we have thus far found in the law. Currency is here seen as 'a form of money', which holds the two words clearly as not synonymous. Judge Mazzant is not alone in this use of language which is divergent from what the law suggests. Since 2013 several US agencies, from law enforcement to financial regulators and the IRS, have reiterated the description of Bitcoin being some sort of 'currency' which they called 'virtual' (Internal Revenue Service, 2014). This contradicts the above findings that the term currency is clearly defined as notes and coins in the law. If currency is defined as notes and coins, no unit existing virtually or electronically can qualify and the term "virtual currency" or "electronic currency" would amount to an oxymoron. In the case of Bitcoin, the second criterion for what a currency is, namely, being issued by state authority, makes the usage of the term additionally paradoxical.

In 2013, apparently conscious of this problem, the *United States Treasury's Financial Crime Enforcement Network* (Fincen)⁸⁵ defined "virtual currency" in their first comprehensive guidance note on bitcoin businesses in reference to the definition of currency in the CFR:

"In contrast to real currency, "virtual" currency is a medium of exchange that operates like a currency in some environments, but does not have all the attributes of real currency. In particular, virtual

⁸⁵ See <https://www.fincen.gov> [last accessed 19.01.2018]

currency does not have legal tender status in any jurisdiction. This guidance addresses “convertible” virtual currency. This type of virtual currency either has an equivalent value in real currency, or acts as a substitute for real currency.” (FINCEN, 2013)

This position and terminology has been confirmed by an oft-quoted publication on the same matter by the Chicago FED, which not only likened Bitcoin to currency but, following the trajectory of equating money and currency, extended the issue by introducing the concept of ‘digital money’: the author applies this term primarily to the electronic FED reserves, used only between the FED and banks, and then likens Bitcoin to those (Velde, 2013).

This does raise up new issues for this inquiry. By contrasting ‘virtual currency’ with the term ‘real currency’, the naked term ‘currency’ by itself loses all definitory solidity. By pointing to electronic reserves the term money loses all relation to and synonymity with cash. The Chicago FED could of course be seen as a commentator from the economic disciplines and not a purveyor of legal definitions. However, the ruling by judge Mazzant shows that this way of looking at the issue is not alien to the legal professions either. Through the questions posed by Bitcoin, the recognition of digital forms of money and currencies seemed inevitable. Moreover, through his practical and phenomenological approach Mazzant also showed that ‘substitutes for money’ are indeed treated as money by the applicants of the law, in contrast to what was discovered in the text books discussed above. In light of an ever-changing world in which new phenomena emerge and are unlikely to fit into old definitions, such a situation is perhaps to be expected, and adhering to old definitions and terminology will only grow less and less tenable over time.

One such case in which these definitions are already showing their threadbareness is the 2014 FINCEN requirement for companies that run Bitcoin exchange platforms to register as “Money Transmitter Businesses” (FINCEN, 2014). Quoting all the definitions that have previously been outlined it was ruled that companies that facilitate the trade and exchange of bitcoins have to comply with the same rules that a conventional payment operator needs to adhere to, including a costly registration and reporting process in all states in which they offer their services (typically all 50 states of the USA for

online services). In this regard it is curious to note that the federal money transmission statutes themselves do not speak of ‘money’ at all, but define services that require such licensing as those involved in “the transmission of currency, funds, or other value that substitutes for currency [...] by any means” (31 CFR § 1010.100 (ff)(5)(i)(A), see Code of Federal Regulations, 2017).

However, the legal definition of currency as found above is here not adhered to either. The transport of notes and coins - which constitutes the most tangible and historically predominant form of “money transmission” - is explicitly excluded in a subclause of the same statute: “The term “money transmitter” shall not include a person that only [...] physically transports currency, other monetary instruments, other commercial paper, or other value that substitutes for currency” (31 CFR § 1010.100 (ff)(5)(ii)(D), see Code of Federal Regulations, 2017). What is left then of forms of money that might be covered in this transmission statute must be electronic ones, which is made explicit in their definition of the term ‘transmission’: “[By] “Any means” includes, but is not limited to [...], an electronic funds transfer network” (31 CFR § 1010.100 (ff)(5)(i)(A), see Code of Federal Regulations, 2017). Electronic units also seem to be implicitly included in their vague descriptions of “other values that substitute for currency” quoted above. In line with this, the word ‘funds’ is explicitly defined by the Electronic Fund Transfer Act of 1978 as “a number of electronic payments” (31 CFR § 1010.100 (w), see Code of Federal Regulations, 2017). However, particularly the term “other values” seems to leave an option for including the transfer of absolutely anything valuable to fall under the ‘money transmission’ regulation, including, but not limited to, Bitcoin. Such interpretation also seems to be the basis for the California Financial Code’s definition that ““Monetary value means a medium of exchange, whether or not redeemable in money.” (Cal. Fin. Code § 2003 (o), see California Financial Code, 2017)

All the above indicates that the terms ‘money’ and ‘currency’ are, in current legislation not sufficiently defined to mark any discernible difference. Or, if one would take the statute’s content literally, the name ‘money transmission act’ is a misnomer and would better be changed to “Something-valuable-other-than-

cash transmitter legislation". The openness for this broad scope of this legislation also resonates from a subclause that states: "Whether a person is a money transmitter as described in this section is a matter of facts and circumstances." (31 CFR § 1010.100 (ff)(5)(ii), see Code of Federal Regulations, 2017)

It could be argued that any expectation of robust and non-ambivalent definitions might be lost with such mention of 'facts' and 'circumstance'. And with the 'money transmission' ruling it has, in effect, now been determined, that Bitcoin is not only described as a form of money, but actually treated and regulated as such - even if this is at odds with the legal definition of the term as discussed above. A final landmark for the normalisation of the legal appraisal of bitcoins being treated as money or currency came in 2014 when the IRS issued their own guidance on Bitcoin. They followed to a large extent the wording of FINCEN, but highlighted the caveat that Bitcoin is not considered "legal tender" by repeating, in a hyphenated addendum, that:

"Virtual currency is a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value. In some environments, it operates like "real" currency — i.e., the coin and paper money of the United States or of any other country that is designated as legal tender, circulates, and is customarily used and accepted as a medium of exchange in the country of issuance — but it does not have legal tender status in any jurisdiction" (Internal Revenue Service, 2014).

This indicates that the status and concept of 'legal tender' remains as the one definite to distinguish between new and conventional forms of 'money'. However, by now it is probably not surprising to find that this term, like the others already discussed, is more ambiguous in law as references to it in common language suggest. To many, across different countries and languages, legal tender seems to mean that a form of money or currency described as such is what a given state deems to be the official means of payment, particularly when it comes to the final discharge of tax obligations. Furthermore, by inference, any other form of money is deemed to be of lesser status or even illegal. The second peculiarity about the term is that it does not refer to all conventional forms of money, but only to specific notes and coins. Some notes like the US Dollar bills, state explicitly that they are 'legal tender

for all debts, public and private’. However, when put to the test in practice, limitations exist in many countries, that bring this broad understanding into question. Businesses, for example, are allowed to refuse payments of certain amounts in coins of small denominations in many countries or implemented maximum amounts that can be paid in cash altogether, see Figure 20.

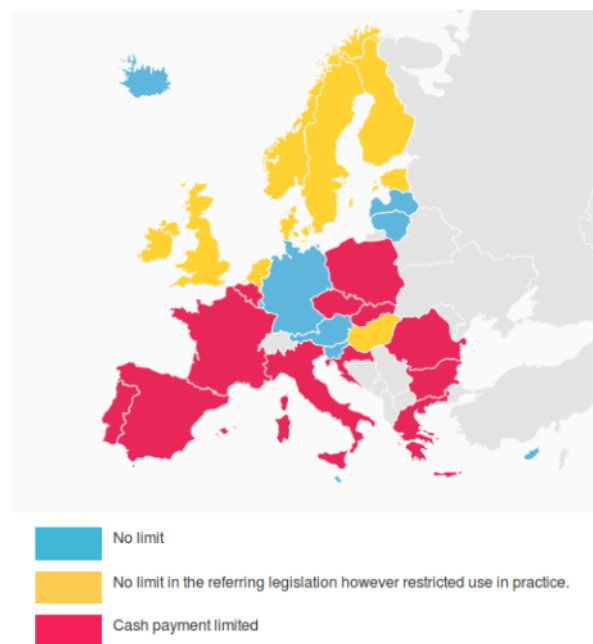


Fig. 20: Restrictions on the use of cash by country
(Source www.europe-consommateurs.eu, last visited 23.09.2017)

The same limitation to the actual meaning of the term ‘legal tender’ can be found in the USA. The Department of the Treasury published a FAQ on this very question which first refers to the coinage act of 1965 stating that “United States coins and currency (including Federal reserve notes and circulating notes of Federal reserve banks and national banks) are legal tender for all debts, public charges, taxes, and dues.” The passage goes on to explain that this “statute means that all United States money as identified above are a valid and legal offer of payment for debts when tendered to a creditor. There is, however, no federal statute mandating that a private business, a person or an organisation must accept currency or coins as payment for goods and/or services.” (Department of the Treasury, 2011) Hence the ‘legality’ of legal

tender only concerns it being offered, while every person or business is free to accept that offer in principle. This renders the expression rather nondescript as the only case to which this would not apply is if a certain form of currency or payment is explicitly prohibited from being offered - as for example counterfeit notes and coins “similar in size and shape to any of the lawful coins or other currency of the United States” (as specified in 18 U.S.C. §491 (a), see U.S.Code, 2017d). This explicit illegality can also pertain to complementary currencies like Bitcoins which are deemed illegal to trade or use in some countries (Bajpai, no date) or even to gold e.g. in the United States from 1933 when president Roosevelt signed Executive Order 6102 that made it illegal for Americans to own and trade in gold other than what was contained in their dental fillings (Roosevelt, 1933). This order remained in place until 1977. In absence of such explicit exclusions of what can be offered in contracts, the current legal tender definitions, at least in the countries studied here, only come into effect in a very limited range of cases.

In the USA, the idea of legal tender is closely connected with the term “lawful money” as discussed above in the discussion of the National Bank Act. This term also features prominently in the 1913 Federal Reserve Act (U.S. Congress, 1913) in which the issuance of the new, national bank notes by the FEDs, and the validity of those, is discussed: “The said notes shall be obligations of the United States and shall be receivable by all national and member banks and Federal reserve banks and for all taxes, customs, and other public dues.” (12 U.S.C. § 411, see U.S.Code, 2017c) Central banks in other countries typically issue notes with the authority and acceptance of the state but with the FED system, the situation is different. The statute continues to say that these notes “shall be redeemed in lawful money on demand at the Treasury Department of the United States, in the city of Washington, District of Columbia, or at any Federal Reserve bank.” The fact that there is a difference between the notes issued by the FEDs and what is considered “lawful money” derives from the historical development of a steadily increasing centralisation of the banking system in the US as discussed above, while congress had issued “Greenback” notes directly, without a central bank, during the the civil war (Solomon, 1996, p. 62). Only those treasury notes

were consequently considered “lawful money” (Federal Reserves System, 2011). Federal Reserve Notes in contrast were issued only under licence of the state. In that sense they joined a plethora of notes that were issued by private state bound and national banks. Today, even if only the FEDs can issue bank notes, the remnants of the earlier issuance regime are still in the letter of the law. While this makes contemporary references to “lawful money” obviously antiquated, the same seems to be true for the contemporary definitions of the terms money and currency.

7.3 Summary and comparison with Europe

Starting with the seemingly tangential issue of what banks are, the study of the statutes of the United States of America reveals a landscape of historic and contemporary charters that all amount to the description of private companies entitled to go about the “business of banking” under certain conditions. Those conditions are predominantly related with what would be called microprudential concerns: making sure that the companies in question remain solvent. Capital requirements for banks are set by international agreements called the Basel Accords and implemented in the USA by joint efforts of the Treasury’s OCC, the FED and the FDIC (Department of the Treasury, Federal Reserve System and Federal Deposit Insurance Corporation, 2012). However, they were also part of the charters granted in the National Bank Act and the Federal Reserve Act. The issue of liquidity and capital is a matter of concern for any company. For banks, however, this necessity of reserves particularly relates to their issuance of notes, in the case of Federal Reserve Banks, or the creation of electronic account balances in the case of conventional banks. The economists’ account of money issuance by conventional banks hinges, in the legal context, on the question of what the law considers to be money and, unless the terms were to be treated synonymously, also what the law defines as currency. As already explained, the references to both terms across the historical record are ambiguous and no clear definition could be found that is able to take the 20th century

technological innovations in payment systems and the practices of complementary currencies fully into account.

It appears that legal positions assume that only economists have a wider understanding of the term money, and at the same time, economists assume that the legal profession has a clear definition. What this study of the 'money' related legislation has revealed is that both are incorrect. The terminology within the law, most explicitly for example the wording of the money transmission act, included positions that see 'money' as just as broad as economists do. This appears in close proximity to what the analytical framework of this thesis suggests: the concept of Money includes any transferable unit of value. This also became apparent in the law enforcement agencies' appraisal of novel complementary currencies like Bitcoin, in which the words 'money' or indeed 'currency' have been used in ways which are far removed from what a narrow reading of the law would suggest. If that narrow position were to be followed consequently, namely that both are only what state institutions like the FED, the US treasury or mint can issue, it would not only have radical ramifications for complementary currencies, but also for the status of electronic bank balances: they would not be money in the legal sense. Indeed, with the small amount of notes and coins that are in existence when compared to the amount of electronic bank balances, there would be hardly any money in existence in the world.

This vacuity of the current terminology also extends to other, more genuinely legalistic terms like 'legal tender'. With those, even more peculiarities that run contrary to common understanding and use of the term can be found in the United Kingdom. The Royal Mint answers the question "What does legal tender actually mean?" in their online FAQs as follows: "Legal tender has a very narrow and technical meaning in the settlement of debts; a debtor cannot be successfully sued for non-payment if he pays into court in legal tender. In most everyday transactions both parties are free to accept or decline any coin in any amount." (The Royal Mint, no date) The 2013 bulletin by the Bank of England is even more explicit, pointing to the common misunderstanding of the term as discussed above:

“The phrase ‘legal tender’ is a widely used expression and is a common misnomer. The only banknotes to have legal tender status in England and Wales are those issued by the Bank of England. There are no banknotes issued by commercial banks in Scotland and Northern Ireland that have legal tender status. However, legal tender status has only a very narrow meaning in relation to the settlement of a debt. The term ‘legal tender’ simply means that if a debtor pays in legal tender the exact amount they owe under the terms of a contract, and the contract does not specify another means of payment, the debtor has a good defence in law if he or she is subsequently sued for non-payment of the debt. In ordinary day-to-day transactions, the term ‘legal tender’ has very little practical application, as whether or not an instrument (be it a banknote or local currency voucher) is used as a means of payment is subject only to the mutual agreement of the parties to the transaction.” (Naqvi and Southgate, 2013, p. 321)

That a legal and economic system can simply do without any legal tender can be seen in Scotland where there is currently nothing of that status. The 1998 Scotland Act had transferred all matters of “currency: coinage, legal tender and banknotes” to Westminster (Scottish Government, 2009, p. 12), but the subsequent UK Currency and Bank Notes Act from 1954 defines that only “notes of denominations of less than five pounds shall be legal tender in Scotland and Northern Ireland” (U.K. Parliament, 1954, sec. 1.2). Since notes of such denominations do not exist today, there is no legal tender in Scotland.

Some economists suggest that this terminological difficulty only adheres to the English language and that distinctions like the French ‘argent’ and ‘monnaie’ which is similar to the Spanish ‘moneda’ and ‘dinero’ or the German ‘Geld’ and ‘Währung’ would allow for sharper concepts (Fox, 2011, p. 153). However, a recent PhD thesis on the treatment of ‘money’ and related terms in French law concluded that at least where the fungibility between electronic bank accounts and central bank issued money is concerned, the issues pertains in that language as well (Romain Zanolli, forthcoming). The Swiss financial commentator and publicist Christoph Pfluger, who researched the financial legislation of Switzerland, concluded his analysis saying “It is astounding and actually terrifying that money of all things consists of a juridical confusion, especially in times of ubiquitous regulation and standardisation.” (my translation, Pfluger, 2015, p. 53) Discussing the

Eurozone in general, Prof. Huber, one of the pre-eminent scholar on monetary theory and reform in Germany, refers to balances on bank accounts as mere “money surrogates” and warns: “In discussing money, credit and debt one must be careful not to talk past one another for purely semantic reasons. Terms involved have several denotations at once.” (Huber, 2014, pp. 18–19)

Huber is also the chairman of the scientific committee of the *Monetative*⁸⁶ campaign for monetary reform in Germany. Its counterpart in the UK, *Positive Money*, attributes the legal origin of the current dominance of banks and their power to create bank balances as the predominant form of money to a similar situation as here found in the US: The Bank Charter Act gave the Bank of England (established in 1694) the monopoly to create bank notes across Britain.⁸⁷ That ‘substitutes’ or ‘surrogates’ for these notes would acquire everyday use and widespread acceptance in commerce could not have been foreseen at that time. Also, as long as these substitutes only came in the form of cheques it seemed a negligible issue. With the rise of electronic accounts and electronic payment vehicles, however, their usefulness and prevalence has grown almost exponentially, particularly since the 1970s and today “99% of all payments (by value) are made electronically” (Positive Money, no date). In the spirit of the Bank Charter Act, electronic money created by commercial banks would now have to be prohibited just like banknotes. Updating the law accordingly and reverting the current situation to bring control over the creation of money back into democratic, instead of shareholder, control is the aim of the campaign by Positive Money, the Monetative and similar groups in other countries (see International Movement for Monetary Reform, 2018).

The situation of terminological ambiguities that are here demonstrated in the law of the USA were recently confirmed for the law in the UK by a study conducted by linguist and barrister Dr. Kate Harrington (Harrington, 2017). She finds that, even if conventional money today comes mostly in electronic or virtual forms, “the language of the tangible will still creep in and they [the laws] will still use the words “cash” or “money” in their name” (2017, p. 286).

⁸⁶ See <https://www.monetative.de> [last accessed 19.01.2018]

⁸⁷ The commercial banks that continue to issue notes in Scotland and Northern Ireland today are only allowed to do so on the basis of notes from the Bank of England that they need to purchase and hold on reserve at a 1:1 ratio (Bank of England, 2018).

She is adamant that “Money must, for legal purposes, have a very specific meaning as the definition in its particular legal situations must necessarily determine often complex disputes as well as regulate the smooth working of commercial and domestic lives” (2017, p. 288). However, the situation in the law of the UK, as in the US, is to the contrary: “money in law is difficult to define: it can encompass almost every common meaning or it may equate to none” (Harrington, 2017, p. 303).

In his nearly 1000 pages strong 2012 edition of the seminal legal treatise “Mann on the legal aspects of money” Charles Proctor summarises similarly: “‘money’ has a variety of different meanings in different situations, and individual cases require separate scrutiny; no hard and fast rule exists in this area”; and he goes on to wonder if “it becomes tempting to ask at this point whether the search for a general definition of money serves any useful purpose” (Proctor, 2012, p. 8). It is difficult to decide if better definitions would not ultimately also benefit the legal profession to whom Proctor addresses his question. Jibes to the contrary definitely abound, even in regards to monetary legislation: “the legal fiction that there is one clearly defined thing called ‘money’ [...], a fiction introduced to satisfy the work of the lawyer or judge, was never true” (Hayek, 1990, p. 57).

Resulting from the findings in the previous chapter, that there is no clear definition of money in the discourse of central banks, this last part of the analysis has revealed two things. Firstly, even if economists refer to the law as a discourse in which the notion of what ‘money’ was would be clearly defined, the definitions actually found in the law are neither clear nor coherent. The terminology used exhibits strong remnants of monetary practices that have changed dramatically over the past centuries and are currently being made ever more unsatisfying by the development of digitalisation and emerging new technologies and practices including, but not limited to, Bitcoin and the blockchain. Secondly, the analytical framework of discursive institutionalism and the terminological distinctions between Money and currencies introduced in Chapter 3 provide a useful template to reconceptualise monetary practices

including 'money as we know it', and the privileged role that the legal discourse plays within that.

'Money as we know it' encompasses different forms and appearances, from notes and coins to electronic balances at commercial banks, credit card companies and e-money providers, electronic bank balances, all with their own set of institutional rules established in banking-practice and the economists' discourse; and, as is shown here, the law. Speaking of those conventional currencies simply as 'money' without explicitly marking the difference between the fundamental diversity and openness of the concept of Money and the individual concreteness of a given implementation of it renders this discourse increasingly ambiguous and prone to ideological assumptions that favour the incumbent practices and limit innovation and democratic participation. Currently this situation seems to be kept operational by the deployment of a plethora of derivative terms to differentiate one form of monetary practice from another. This was also observed in the economists' discourse analysed in the previous chapter, where terms like 'broad money' 'narrow money' 'state-issued money' and 'private money' are used to indicate difference of practice and unity of concept. The analysis of the law however revealed terms like 'lawful money' and 'real money' which have a strong judgemental quality as they indicate a difference in legitimacy of one monetary form over another. However, the law fails to substantiate this differentiation in its application to modern monetary practices, especially when it comes to the diverse forms of complementary currencies which Chapter 5 has shown to be a commensurate part of the instantiations of the concept of Money when seen through the conceptual lens of discursive institutionalism.

Financial regulations and legislation are important to protect individuals, companies and the economy as a whole from fraud, exploitation and undue volatility. Currencies like the Pound Sterling, the US Dollar and the Euro are important elements of their respective economies; and as such they merit a preferential treatment by the law, for example when it comes to the regulation of who may provide financial services denominated in these currencies and under which conditions. However, maintaining its protective function without

becoming rigid, unresponsive and a hindrance to innovation and democratic participation seems only possible if the law becomes more inclusive in recognising the dominant electronic forms of 'money as we know it' and less exclusive when it comes to the association or even identification of the term 'money' with only those state-proffered currencies.

A way in which the findings of the other two analytical chapters above and the analytical framing of discursive institutionalism can help to achieve this will be laid out in the policy section of the next chapter.

8 Implications - For theory, policy and research

One could liken the situation [of ever new labels for currency innovations without consistency in monetary theory] to going to the grocery store and buying a can identified by three distinct stickers that respectively read 'nuts', 'cryptonuts', and 'fruit', and opening it later only to discover that it actually contained smoked ham.

*Vergne and Swain:
Categorical Anarchy in the UK?, 2017*

8.1 Implications for monetary theory

Building on the institutional monetary theories found in economics and sociology, the framework of discursive institutionalism described in Chapter 3 has here been introduced to provide a framework in which the concept of Money and all phenomena of currency including conventional money and complementary currency can be coherently described. The analytical chapters have demonstrated how this framework can be operationalised with methodologies of neo-institutionalism and discourse analysis.

In Chapter 5 (Discursive challengers - The practice of complementary currencies), the CHAT methodology allow for a description of the diversity of monetary forms found in the field of complementary currencies not only in contrast to but also in a way that is conceptually commensurate with the various forms of conventional money. With this it has been established that 'money' is a much broader phenomenon than is commonly acknowledged and that the commonplace identification of Money with national currencies is an impediment for monetary understanding, appropriate regulation and ultimately necessary reform and innovation.

Chapter 6 (Fifty shades of gold - A critical reading of central bank publications) has lent further weight to this argument as it demonstrated inconsistencies and lack of clarity in the way the Bank of England defines and conceptualises

Money and currencies. It also highlighted what the Bank's position of power means for its contribution to the discourse of 'money'. and how its mandate to protect trust in Pound Sterling and its ambition to educate about monetary matters to the wider public can lead to conflicts of interest in this context. Oversimplifications and adherence to outmoded analogies, like the barter story and references to gold, were shown to be particularly problematic here and amount to obfuscation rather than education on the nature of 'money'.

Finally, Chapter 7 (Mapping a blindspot - Lawful money and lawless money) demonstrated how inconsistencies and conflicting definitions of Money and currencies are prevalent even in law, a field in which lay-people and economists alike expect to find definitive answers. The chapter also highlighted how historic phenomena in monetary practice are still engrained in contemporary statutes and terminology, and how not least in the face of ongoing innovation of payment technologies and monetary forms, the current legal basis for regulation, consumer protection and necessary reform are inappropriate, fallacious and an impediment for financial sustainability.

The discrepancies identified within and across the contemporary discourses of complementary currencies, financial regulators and the law lend further weight to the need for a coherent theory of Money which could help to understand current phenomena of conventional money and currency innovation and resolve terminological inconsistencies. In the review of current monetary theories no framework that can achieve such coherence could be identified, as two integration steps were required which discursive institutionalism appear to make possible.

Firstly, monetary theory needs to take the contemporary division of influence between governmental agencies and commercial banks into account and cannot continue to adhere to chartalist ideas that restrict the term money to currencies issued by states. Secondly, novel and unconventional instantiations of the concept of Money need to be regarded as relevant on a theoretical level, even if they remain marginal in terms of the economic impact. As was shown in the theory chapters, philosophical and sociological underpinnings to monetary theory can be the cornerstone of transdisciplinary

research and the development of new theories will benefit in their clarity and applicability if they are not restricted to the epistemological logic of just one academe.

A precondition for the first integration step is to relinquish the appraisal of material forms of money as having primacy over non-material forms. The image of gold coins still seems to pervade the writings of even well established and otherwise critical scholars. In his presumed refutation of Ingham's proposition of money as a social relation, Costas Lapavistas says: "Much of the mystery and complexity of money arises because it is simultaneously a social relation [...] and a thing" (Lapavistas, 2005, p. 401). However, even if the immediate history of the conventional money in use today includes certain material underpinnings to paper notes that sets them apart from money on account, the way that these material phenomena are treated in contemporary research really only add that to monetary theory: mystery. The break from the global gold standard in the 1970s and the ensuing spread of information technologies that led to today's dominance of money that is electronically created and transacted by private banks means that monetary theory still needs to include material forms of money but they do not contradict a purely social constructivist position.

This situation also renders chartalist theories inconclusive as they do not account for the dominant role that private banks currently play in the provision of conventional money. Proctor summarised both points, saying that "it can no longer be accepted that money can exist only in a physical form or that the State has the monopoly over its creation. [...] The dominance of scriptural money and the role of private institutions in the creation of money is now so great that the original theory [of metalism and chartalism] has an air of unreality about it." (Proctor, 2012, p. 40) Yet the account of 'money' and currency in the text of both central banks and the law was here found to still reference these obsolete ideas and to fail in providing a consistent terminology.

In the publications of the Bank of England the word "money" is used in a variety of compound terms (broad money, narrow money, central bank money,

private money etc.) that describe current forms of conventional money, including its electronic forms, and provide a sense of definitory certainty in face of an acknowledged lack of a coherent theoretical underpinning of the concept of Money itself. Also inversely the term “currency” is clearly and narrowly defined as notes and coins (or cash) of conventional money while it is ambiguously used in a variety of compound terms in regard to complementary currencies, even purely electronic ones (local currency, digital currency, alternative currency etc.). Furthermore, even if it is acknowledged that conventional money today has no underpinning by gold or other material assets, the analogies and imagery deployed by the Bank of England to elucidate “what money is” continue to evoke gold and barter, particularly in communications aimed at a wider non-expert audience (also compare Harrington, 2017, p. 290).

While economists refer to the legal discipline for definitory clarity (compare Bholat, Grant and Thomas, 2015), the analysis of law texts in Chapter 7 has revealed this reliance to be unfounded. In essence the inadequacy of legal concepts of Money and currencies is based on its implicit adherence to outdated forms of money. This was observed in the fact that the terms “currency” and “money” still appear with an inferred synonymity as a remnant of the situation in the 18th and 19th centuries when the issuance of notes and coins were the only legitimised monetary forms. Where equating the two would preclude modern electronic bank balances from the scope of the law, as in the money transmitter legislation, caveats were formulated in such a way that everything transferable could be deemed ‘money’. This situation in current legislation constitutes a major impediment to integrating the practice of complementary currencies into the framework of current legislations. This had posed a difficulty for the practice of complementary currencies for some time, but legal actions against them have often been waived in reference to their small size and irrelevant economic impact before court proceedings commenced (compare Rösl, 2006). In recent years however, the prominence and financial implications of cryptocurrencies have brought these inadequacies to the attention of the regulators and a wider audience including legal experts.

On the question of the regulation of bitcoin exchanges in the USA the existing laws were found to be “woefully inadequate for virtual currency. The department [of Financial Services of the New York] initially wanted to regulate this technology by enforcing rules written around the time of the Civil War. Those laws could not possibly address any kind of digital technology like the internet, let alone bitcoin traded on a blockchain.” (Tapscott and Tapscott, 2017, p. 24)

Suggestions for how these incongruences could be reconciled in light of the findings of this thesis will be explored in the following section. When it comes to a more coherent and comprehensive monetary theory, the definitions of money by central banks and the law found in the previous chapters did not yield a satisfactory basis. In this situation it seems to fall to an epistemologically well founded sociological theory of money to provide the foundation from which economics and legal discourses can achieve a coherent treatment of all forms of conventional money and novel currencies alike. In contrast to the situation just a few decades ago, the practice of and research into complementary currencies since the end of the 20th century means that this does not have to be a purely speculative exercise, as Hayek had lamented when trying to argue for his idea of multiple parallel currencies (Hayek, 1985, p. 325). The degree to which a new monetary theory is satisfactory in regard to its capability to include diverse monetary forms can today be tested in the light of the practice of complementary currencies. This constitutes the second integration step that was called for in the beginning of this section.

Authors mentioned earlier in this thesis, such as Dodd, Zelizer, Lietaer and Blanc, have called for and worked towards such an extension of monetary theory and discourse to include the phenomena of complementary currencies. Apart from the theoretic grounding that the discursive institutional framework and its foundation in social constructivism lend to the institutional theories of ‘money’ discussed in Chapter 3, the methodologies here employed are deemed commensurable with the work of those authors. Describing currencies, including conventional money, as activity systems provides a

consistent methodological approach to bridge the divide between all sectors of the practice of complementary currencies and ‘money as we know it’, which was found to be drawn in the research literature on complementary currencies (compare Greco, 2009; Blanc, 2011). Notably, with this present framework, profit orientated currency systems like the Sardex and the growing field of blockchain based currencies like Bitcoin can be described within the practice of complementary currencies alongside models like timebanks, local currencies and LETS that have broader recognition in the complementary currency literature.

In sociology, a similarly comprehensive approach to conventional money and complementary currencies is found in the empirical and theoretical work of Viviana Zelizer, who describes phenomena ranging from the saving of conventional money for specific purposes to timebanks which she calls ‘circuits of exchange’ (2012, p. 158). However, Zelizer does not provide a monetary theory along with her phenomenological analysis. Building on her work and widening the scope of the sociological account of ‘money’ to include the diversity of electronic forms of conventional money, Nigel Dodd critiques the terminology found in conventional theories of ‘money’ (Dodd, 2007), yet also fails to give a theoretic framing that extends to conventional money and complementary currencies alike.

The distinction offered in this thesis between the concept of Money and currencies as instantiations of that concept provides a way to dispel the terminological ambiguity that Dodd observes. Where his arguments that “money is genuinely multiple” (2014 p. 382) overtly conflicts with the narrow definition of the term found with chartalist authors, such as Ingham (2006), Dodd proposes to transmute the meaning of the term ‘money’, in references to the writings of Simmel and Weber to mean something “fictional”, “utopian” or “idealistic” (2014). While this closely resonates with the ‘concept of Money’ as utilised in this thesis, Dodd only mentions Simmel’s idea of “social forms” in passing as a way of understanding the diverse monetary phenomena he observes across conventional money and complementary currencies (Dodd, 2005b, p. 572) yet does not offer an alternative term for these instantiations of

the concept of Money. The term 'currency' itself appears in his writing strictly only in reference to state-issued notes and coins (compare 2005b, p. 560). The proposition made in Chapter 3 to extend the meaning of the term 'currency' beyond notes and coins in order to relieve the term 'money' of its ambiguity provides for a coherent terminology in the sense of Dodd's inquiry. Furthermore, the way currencies have been analysed based on institutional heuristics opens this terminology for systematic comparative research across all forms of conventional and complementary currencies.

At the same time, the discursive framing allows for an analysis of Money and currencies with a methodological suite of approaches that widens the spectrum of perspectives and data on the question of what 'money' is, how it is constituted, and how it changes. Basing such an inquiry on the epistemological foundation of social constructivism makes language the central element of an understanding of monetary phenomena, in regard to how they are perceived and what they mean for our everyday lives. It also widens the possibilities of ontological research questions. The findings across the analytical chapters suggest that there is no one certain definition of 'money', not even in the authoritative discourse of financial regulators or the law, meaning that the way in which Money and currencies are talked about needs to be seen as more than semantics employed for educational or promotional purposes. Language and discourse is how Money and currencies are imbued with reality (in the critical realist sense) and social relevance. Money is what it is said to be and how it is instantiated and used as currencies; and stories about 'money' coalesce across discourses into 'the story that is Money'. Hence, where conventional institutional analysis appraises social systems in as much as they structure interactions, the heuristic of discursive institutionalism here applied enables an inquiry into the way Money and currencies as institutional systems come to be through communicative interactions. The dialectic nature of social systems that becomes apparent by approaching the topic at hand from a discursive analytical perspective means that "money is mediated by and mediates interactions" (Mooney and Sifaki, 2017, p. 22).

The research here conducted into the discourses that constitute Money and currencies, complements the rich literature in which linguistic approaches have been applied to understand how ‘money’ appears, and what it means and does, in different social contexts (see for example Mooney and Sifaki, 2017). It also includes and transcends how ‘money’ and language have been compared with each other to illustrate the nature and properties of both of them (compare Section 2 of the Methodology chapter). However, as the concept of Money becomes reified through the discourses of many different actors and contexts, a critical account of the positions of power of these actors is of particular importance for this approach to monetary theory. While complementary currencies and conventional money are here seen as having equal theoretic validity as instantiations of the concept of Money, conventional money has been shown to dominate monetary theory and the discourses of central banks and the law. That the word ‘money’ conventionally represents both, the concept and its predominant instantiations, is a case in point of this dominance.

Critical discourse analysis offers a lens through which such a situation, in which one idea dominates a given discourse without being questioned in light of possible alternatives, is described as ‘naturalization’. This “gives to particular ideological representations the status of common sense, and thereby makes them opaque, i.e. no longer visible as ideologies.” (Fairclough, 2010, p. 44) There are several factors that contribute to conventional money having a privileged commonsensical position when it comes to the everyday concept of Money. The most obvious being that everybody is very much used to it from regular and, presumably for most people, even exclusive use of it for economic activity of any kind. The second reason is that it has a long historic legacy and most accounts of ‘money’, academic and popular alike, focus on explaining the lineage from previous forms of currency to contemporary ones instead of highlighting differences and ruptures. Even where shortcomings of previous iterations are obvious, as for example when hyperinflation requires the re-issuance and conversion from one currency system to another, constancy is often conveyed by the adherence to the established denomination. For example, in Germany, the ‘Mark’ continued to be the

popular name of the conventional money throughout several currency regimes of different kinds between 1817 and 2001. In addition, the change to the Euro was there prepared and accompanied with television advertisements that stressed continuity and reliability despite the obvious change in name and its novel supranational governance.

This last example also reveals a third factor contributing to the discursive dominance of conventional money: its governmental patronage enacted through entities like central banks and tax authorities. However, the findings of this thesis in regard to the ambiguity of the concept of Money in the publications of financial regulators and the law opens the dominance of conventional money in monetary theory up for questioning. Moreover, to make good on the calls for structural reform of the financial system and a fundamental diversification of economic means, the dominance of conventional money and limitations of contemporary monetary theory could be seen as having the potential to inhibit innovation and adaptation. The uncertainties that complementary currency initiatives face in terms of the legal status of their systems is but one aspect of the detrimental effects of parochial monetary theory. However, changes to such fundamental social institutions like 'money' cannot be brought about without the implicit consent of the populace - at least within the principles of democratic participation.

Clear and transparent information is a prerogative for broad consent and participation. In this regard the more inclusive and open communication strategy of powerful actors like the Bank of England are to be welcomed. Making the jargon of economics and finance more accessible is the first step towards a substantial engagement with non-expert audiences and the wider public. However, not addressing the theoretical ambiguities of 'money' while continuing to use analogies of obsolete monetary theories and narratives, such as the references to gold that were observed in their publications in Chapter 6, and the analytical recurrence to the marginal material correlates of currencies like notes and coins, is likely to have an adverse effect. While the general public still perceives and talks about 'money as a thing' and 'subject to natural laws' (an assumption confirmed by Sifaki and Mooney, 2015, pp.

207–208) the public engagement with Money and currencies as collectively designed institutions will falter. For central banks, whose mandate is to maintain the public's trust in the currency they issue, maintaining a certain degree of opacity and the use of outdated framings as for example the continued allusion to gold, might be seen as beneficial in the short term. Flaunting the bullion kept in their vaults if only as a backdrop to their messages, can help to reassure their audiences that their money can be relied upon despite its theoretical and practical uncertainties and the repeated crises that are deemed inherent to the current financial system (Lietaer *et al.*, 2012). Yet under the scrutiny of a critical reading, this use of language and images in regard to 'money' by influential actors in the monetary discourse is here deemed to be obfuscatory and detrimental for the long term success of monetary and financial education and literacy. More than forty years on, and the words of Harvard economist John Kenneth Galbraith still sound true and daunting: "The study of money, above all other fields of economics, is the one in which complexity is used to disguise truth or to evade truth, not to reveal it." (1975, p. 5)

To the degree that 'money' lies at the heart of our economic system, any complacency in consolidating its theory in light of its practice, the conventional and the unconventional, will stifle any attempt at reforming our wider economic system to cope with the social and environmental challenges of our times. A very recent empirical study by a consortium of progressive organisations (New Economy Organiser Network *et al.*, 2018) analysed the predominant narrative framings applied when lay people talk about the economy and what effects these framings have on the public's view of policy options and their own agency. Unsurprisingly, they found that the pervasive narratives about the economy are closely linked with narratives about 'money'; and equally unsurprising in light of the findings of this thesis is the quote from their primary interview data that they presented in the report to illustrate this: "Researcher: If I say the word economy, what kind of things do you think about? Participant: Money." (New Economy Organiser Network *et al.*, 2018, p. 27) For the perception and outlook of the public this story, in conjuncture with other assumptions and framings of the economy, leads "to

tremendous fatalism and an inability to imagine positive, structural changes in the economy” (2018, p. 13).

To change fatalism into empowerment, the authors of the report recommend steering narratives towards an economy that provides for the needs of people instead of being all about ‘money’ and in order to “counter the Economy = Money cultural model, communicators [...] should find ways of connecting non-monetised activities - leisure, unpaid care work, use of natural spaces - to the economy.” (2018, p. 55) However, since money and accounting has already pervaded most of our thinking and talking about all walks of life (compare Brodbeck and Graupe, 2017; and Morrish, 2017), a phenomenon for which Giacalone and Promislo ‘coined’ the term “econophonics” (2013), these recommendations seem unlikely to make much headway on. This thesis offers an alternative strategy that does not turn away from ‘money’ but reappraises it as a genuine social phenomenon, that does not have to be accepted as it is, but can be re-conceptualised and reinvented to serve the diversity of needs and functions that sustainable and participatory societies and communities require. Complementary currencies offer sufficient practical examples of how this may be realised and it is time to recognise their potential not only for economic renewal but also for monetary theory.

Some academic proponents of this idea have in recent years graduated from the status of “monetary mystics” in the “occult of complementary currencies” (Scott, 2013, p. 228) to join the infamous lines of maverick economic theorists that were traditionally regarded as “cranks and brave heretics” (Ingham, Coutts and Konzelmann, 2016). Some of the historic specimens of that sort found late recognition with their more mainstream colleagues. And at least in special issues of conventional economics journals this is now happening to some of the authors here discussed as well (see for example the contributions by Amato and Fantacci, 2016; Gómez and Dini, 2016; North, 2016 in the special issue of the Cambridge Journal of Economics, Volume 40; and Blanc, 2017 in Volume 41). The framework of discursive institutionalism is here offered in the hope to contribute to more theoretic coherence within and across the whole phenomenological diversity of conventional and

unconventional currencies alike. To overcome the conceptual hegemony of conventional money and the commercial interests vested in maintaining the status quo, it will be paramount for the future of monetary theory to consider the whole range of ways in which the concept of Money appears in the world, even if some currency instantiations are still marginal and experimental.

This route of inquiry needs to be supplemented by individual and discipline specific research, but for a salient theory of such pervasive and diverse social phenomena such as Money and currencies, academics from economics, sociology, linguistics, anthropology, psychology and the legal disciplines will have to make concerted efforts to relate their insights across their specialists boundaries. Only in this way can their efforts provide the foundation for policy changes such as those suggested in the next section.

8.2 Implications for policy

The suggestions made in this section serve to illustrate how the findings of this thesis and the implications drawn for monetary theory can be reflected in financial policy and regulation. From previous personal experience working with policy makers and financial regulators in regard to the implementation of complementary currencies (Amsterdam City Council, 2015) the following ideas are offered in full awareness of the difficulties and efforts it would take to bring about such changes in practice. This situation is aggravated by the fact that any amendments to the status quo are likely to conflict with the established interests of the financial sector that has co-evolved with financial policy over centuries. These interests are well represented in the structures and processes of political power today. Without trying to analyse their embeddedness, only the overbearing presence of the banking lobby in centres of political power will be mentioned here. Without compulsory and comprehensive registries of lobbyists, only estimates of their influence exist; those, however, speak for themselves. In Brussels alone, the number of staff paid for by banks and other commercial entities outnumbers the lobbyists concerned with a more sustainable and equitable financial system at around seven hundred to one (Amann, 2011). In Frankfurt 98% of seats in the

European Central Bank's advisory groups are assigned to industry representatives (Corporate Europe Observatory, 2017), while in the US about a billion USD are spent every year by the financial industry on influencing the political processes (Schroeder, 2017). Assessing the extent to which the following proposals would conflict with those interests in detail will remain outside of the scope of this thesis.

The complexity of proposing fundamental changes to financial policy also reflects in the multitude of existing organisations and agencies that are currently mandated with regulating and overseeing the financial system. Even to the watchdog of the US Congress⁸⁸ the situation in the US appears to be “complex and fragmented” and in need of streamlining (Government Accountability Office, 2016).⁸⁹ As the data in this thesis covers various localities and constituencies, no attempt will be made to suggest amendments or refinements to any concrete policy or law text. Instead the findings of the previous chapters will be translated to two sets of categorical changes that would not require lengthy new amendments to existing regulations as were enacted in response to the last global financial crises⁹⁰. The first concerns the ambiguities of the terms ‘money’ and ‘currency’ in legal texts, the second introduces a new differentiated approach to financial regulations that would allow for appropriate openness to innovation from all sectors without compromising the protection of consumers and stability of markets. Both will now be described to the level of detail that this format affords.

The first policy proposal, in essence, is to eliminate the references to ‘money’ from the law. Admittedly, the introduction of the distinction between the concept of Money and ‘conventional money’ as its dominant instantiation, including all theoretical considerations that come with this, would be impractical to reflect in all legal texts that are currently concerned with

⁸⁸ See <https://www.gao.gov/about/index.html> [last accessed 15.02.2018]

⁸⁹ Their mapping of 16 financial regulators does not even include all agencies implicated, like for example the US Secret Service that is commonly known only as the bodyguards of the US President but not its original role “to suppress the counterfeiting of U.S. currency” and that today it is mandated with the “protection of the nation's leaders and the financial and critical infrastructure of the United States” (US Secret Service, no date).

⁹⁰ Only the 2010 Dodd-Frank act added 848 pages to existing financial regulations (The Economist, 2012) while the total of EU regulations at the same time came to 34.019 pages (Schick, Giegold and Philipp, 2016).

‘money’. Consequently, the idea here is to clarify what sort of ‘money’ the law in a given constituency is concretely concerned with and replace all mentions of ‘money’ with the name of that currency. In the UK that would mean that laws and regulations refer only to Pound Sterling, in the US to the US Dollar, in the Eurozone to the Euro. For complementary currencies this would have two direct effects. On the one hand, any currency system that has no direct interface with the national currency system, for example by being redeemable to it with the issuer, falls clearly outside the scope of the law that is only concerned with Pound Sterling. It would thus not matter any more if the issuers, users or any observer regard, categorise, describe, or even advertise currencies like the Sardex, the WIR, timebanks or LETS as ‘money’ or something completely different. Consequently, the terminological and discursive ambiguity of that term would cease to be an impediment for the clarity of the law.

The second immediate benefit would be the elimination of the current legal contradictions, as revealed in the two previous chapters, in regard to the question of whether notes, coins and central bank reserves are equivalent as ‘money’ with electronic balances issued and held by commercial banks. That all of those practically count as ‘money’, for all discourses but the law, has been widely noted not only by economists but also by legal scholars (compare Hayek, 1990, p. 91; Proctor, 2012, p. 40; Huber, 2016, p. 22). If the law was to speak of Pound Sterling or Euro instead of ‘money’, all payment instruments, physical or electronic, would be included without doubt.

This would not necessarily imply that all other currencies and issuers thereof would be unregulated. The second policy recommendation will set out a framework for these. However, replacing the mentions of ‘money’ with the name of the respective national currencies would clearly indicate the special status and protection that is due to them without ambiguity. Any organisation or company that is involved in the issuance, storing or transmission of these will continue to be bound by the specific rules that are already in place, but without the ambiguities and terminological inconsistencies that are currently found in the law. This would also make any reference to the concept of ‘legal

tender' superfluous. The national currencies would simply become the currency that any government uses for accounting and payment purposes and protects and guarantees as the default or 'last-resort' monetary instrument for its constituency. This can be compared to the status of registered trademarks that give their owners preferential rights in determining what may or may not be done with them. This legal device is already applied in the UK and Europe where the copyright symbol on each individual banknote protects it from general reproduction without having to resort to historic counterfeiting laws (European Central Bank, 1999, p. 21). Therefore, companies, such as banks, that operate with the currency protected by the state, would have to comply with the rules set out by that state, while this would not exclude other entities to freely create and use other currencies and set specific rules for these.

If this first recommendation was to be enacted, the legal status of complementary currencies and its consequences for their issuance and use would be fundamentally different to that of national currencies. However, this would not relieve issuers and users from other legal obligations and provisions. To name but a few, contract law, taxation and accounting law, consumer and data protection provisions still need to be adhered to (compare CCIA, 2015b). That businesses involved in the provision and handling of 'money' require a differential treatment from other trades and industries is primarily based on the fundamental role that conventional currencies play for all other aspects of the economy and most citizens' personal lives. From these fundamental functions follows a greater risk to individuals and the integrity of other societal systems was 'money' to fail. This risk is reflected in the necessity, or at least justification, of the state interventions that were decided to prevent banks from failing as commercial enterprises in the wake of the sub-prime mortgage crisis of 2008.

The management of these risks is also reflected in the mandates and objectives of contemporary financial regulators. The Financial Conduct Authority in the UK, for example, lists its aims as "protecting consumers, enhancing market integrity and promoting competition" (Financial Conduct

Authority, 2018). As was highlighted in Chapter 5, most complementary currency initiatives do not pose any risk to the overall 'market integrity', mostly due to their size, and on that basis they are not approached by financial regulators or deemed exempt from compliance to the rules that banks or bigger financial service providers have to follow. This rationale, however, has been challenged by the widespread interest in Bitcoin and questions about appropriate regulation are now posed. These questions will become even more pressing with the move of large retail corporations into the 'money' and payment space. The joint growth of Ebay and PayPal can be seen as a precursor to this. Even more diversified platforms like Amazon or Alibaba have the potential not only to provide conventional financial services to their networked customers, but to even launch their own currencies to these networks (see Boyle, 2011, p. 2; Finextra, 2017a). Even though it would not be a financial hurdle for such companies to obtain banking licences in some or all the constituencies they serve, this would not be an option for smaller, non-profit or even grassroots entities. Furthermore, as was discussed in the previous chapter, the ambiguities of how 'money' is defined in the law introduces uncertainties about what a bank is, not least when it comes to antiquated descriptions of 'deposit taking' instead of 'deposit creating' (see Jakab and Kumhof, 2015).

That this is not only a theoretic speculation could be seen in a legal case over what a bank is and does from late 2016. The federal Office of the Comptroller of the Currency proposed to define a new type of bank-charter for financial technology providers (including, but not limited to, bitcoin-exchanges) (Office of the Comptroller of the Currency, 2016), which was opposed by the financial regulator of the State of New York as an attempt to undermine state law through the extension of the federal definition of what a bank is and does (Finextra, 2017c). This law case has recently been dismissed by a regional court (Finextra, 2017b), however, the difficulty of classifying monetary innovations within traditional organisational categories, most prominently 'bank' vs 'non-bank' (called 'alternative financial services' (Bradley *et al.*, 2009)), remains. To complement the first policy recommendation of refraining from references to 'money', the second implication here drawn from the

findings of the analytical chapter is to abandon ‘institutional regulation’⁹¹, that depends on the definition of entities, in favour of the principle of ‘functional regulation’ (see Anabtawi and Schwarcz, 2013, p. 11; Schwarcz, 2014, p. 5). In regards to monetary regulation, this would mean differentiating regulations in two ways: firstly, by the services that an entity offers, and secondly how the entity is set up to offer these.

The basic functions that a monetary entity can provide have been proposed to be a) sufficient liquidity for a given market, b) borrowing and saving, c) payment services, d) insurance, c) collecting investment capital (Orsi, Mont and Bindewald, 2017). These functions can in principle be provided with various forms of currencies, not only in conventional money. Complementary currencies like Sardex and WIR can easily be categorised as providing liquidity when conventional finance is difficult or costly to come by. Similarly, timebanks provide liquidity that can only be used for a certain set of services that are typically not available for conventional money. Bitcoin and other cryptocurrencies, on the other hand, mostly fall into the category of payment and investment functions and the entities that facilitate their markets would be regulated accordingly. In fact most functions that were traditionally only available through banks and traditional financial service providers can today be accessed through non-bank entities (Bindewald, 2015).

The second set of functional distinctions concerned not with what is offered, but with ‘how’, equally apply to conventional money and banks as much as to complementary currencies and their issuers. As the functional distinctions described above do not carry any indication as to the degree or strictness that these different functions of monetary services shall be regulated at, this second set can be seen as primary for the appropriate supervision of different entities. As in the current regulatory paradigm, the first distinction to be observed in ways of ‘how’ would be that of size and scale. Particularly when it comes to the stability or integrity of markets, currencies that are limited in the number of users, the number of services available and the number and

⁹¹ The term ‘institutional’ in the context of regulatory theory does not represent the social constructivist approach describe in this thesis but uses the term in the narrower meaning of ‘organisation’ or ‘entity’.

volume of transactions pose far less risks and would not have to be regulated in the same way as conventional money and the big banks that dominate its operation. The 'limited network exemptions' as currently apply to 'e-money' issuers in the UK (CCIA, 2015g) can be seen as an application of this principle. From a certain size or market-share, that would be deemed significant for the overall market integrity, the issuer of a complementary currency could of course be subject to the same regulations that apply to entities that issue or handle conventional money. A similar size-based approach to regulation can be observed in the 2014 EU Non-Financial Reporting Directive that only applies to companies of 500 or more employees which is an indicator to approximate their potential impact on the economy (Dunn, 2016).

A second, equally relevant, distinction that can be seen as connected to the *object* element of the CHAT analysis of Chapter 5, would be the organisational purpose of the entity that provides monetary services. From surveying particularities and differences of the banking sector in different countries, Prieg and Greenham (2012) have the term 'stakeholder banks' for commercial banks that are different in their governance, ownership, operational principles and economic impact from the large corporates that usually come to mind first when the term 'bank' is mentioned. They found that cooperatively or publicly owned and not-for-profit banks continue to provide fundamental services to the real economy even in times of crisis when shareholder owned for-profit banks reduce their portfolios (Prieg and Greenham, 2012, p. 16). In analogy, it is here proposed that 'stakeholder oriented' businesses across the spectrum of financial services and at any size should be treated more leniently in regulations than for-profit entities that intrinsically harbour a great potential for misconduct towards their customers and other market players within and beyond the financial industry.

Regulation that would differentiate by governance, ownership and objectives would have to spend less effort on adjusting to the systemic effects of moral hazards post-hoc. The fact that non-profit entities are tax exempt in many countries can be seen as an analogous applications of the stakeholder

principle to regulation. Non-profit status is typically granted only to organisations that can demonstrate to work for the public interest or common good. Even if other entities, as for example cooperatives, are profit oriented, they are here deemed to be less hazardous to their business environment because of the way they equally distribute power amongst their members, who are typically also interested in the long-term success of the company.

The examples in Chapter 5 demonstrate that stakeholder orientation can be implemented in many different ways, two of which are non-profit status and cooperatives. Community Interest Companies would fall into that category, too, as would shareholder owned businesses with a strong and transparent code of ethics like Sardex. Several forms of commercial banks, like the publicly owned Sparkassen introduced in Chapter 1, as well as credit unions, mutuals and cooperative banks, would also benefit from this kind of regulation. The typical companies that make up the community ecosystem of Bitcoin on the other hand, like exchanges and mining companies, would not qualify.

This functional approach to regulation would allow for a flexible and differentiated treatment of innovation shifts in the financial industry landscape, which already today expose the practical limitations of the traditional ‘institutional’ approach. If, however, such fundamental changes can be expected to be enacted is even doubted by advocates of the functional regulation paradigm. As law professor Steven Schwarcz put it: “I am not claiming that functional regulation necessarily will, or even could, become politically viable. Policymakers and regulators tend to focus on the past” (Schwarcz, 2014). The fact that the detrimental effects of the ‘one-size-fits-all’ approach of current regulations are widely recognised (Sheffield, 2015) while powerful regulators only pay lip service to the need for proportionate regulations without putting it into practice (compare Lautenschläger, 2017) only lends further weight to the suspicion that the benefits of the status quo for incumbent corporate players trumps the benefits that regulatory reforms would yield for stakeholder based finance. However, the findings of this thesis demonstrate a degree of inconsistency in the treatment of ‘money’

by financial regulators and the law, which will not be tenable for much longer in the face of the diversification of monetary practice on the one hand and the growing calls for fundamental adaptations of our financial system to the social and environmental challenges on the other hand. It is time to heed these changes not least to avert what professor Huber recently warned against: “If legislators continue to slumber, it might very well happen, that [...] hardly reversible global facts are being created, which will finish off any financial sovereignty” (my translation, Huber, 2017).

Not to leave change in policy to the incumbent commercial actors, academic research is not only required to step out of its conventional disciplinary boundaries, but also to collaborate directly with civil society organisations and political actors to achieve the broad societal support that can counter-weight the current influence and inertia of the financial industry. Independent think tanks and activist collectives like the New Economics Foundation and the New Economy Organisers Network (NEON)⁹² and in particular the Positive Money campaign in the UK and their like minded counterparts in many countries around the world are already actively engaging in the discourse of monetary alternatives. The insights from more transdisciplinary academic research would strengthen and deepen the proposals and recommendations they are already making. The “Framing the Economy” report cited above, for example, would have benefited from the understanding of Money and currencies here proposed, and the draft legislation by Positive Money has been criticised for being undiscerning towards what would here be called stakeholder currencies in their efforts to limit the issuance of conventional currency to the state (Rogers, 2017). The benefits of cross-sectoral research collaboration would also extend the other way. It would increase the reach and impact of academic research towards broader audiences that are ultimately required for the kind of policy changes here suggested. Given the current economic inequalities that are not only defined geographically or demographically, but also between sectors of industry, with the finance industry dominating the productive economy, changes to policy will inevitably mean restrictions and losses to those currently privileged. Only joined-up

⁹² See <http://neweconomyorganisers.org> [last accessed 18.02.2018]

voices and popular votes can meet their expected resistance. This thesis, or at least the planned publications that will result from it, will hopefully not only be read by academics.

8.3 Implications for methodology

This final section will appraise the use of a transdisciplinary methodology for research on the nature of money and currencies and highlight its limitations in light of the results from the analytical chapters. It will also highlight the limitations of this unorthodox way of conducting a doctoral research project and make suggestions for future research that can complement and further the findings arrived at here.

The use of three different methodologies and the choice of three different datasets was necessitated by the progression of preliminary findings and the development of hypotheses along the course of the research project. Abductive inference in search of likely reasons that could explain the unexpected observation about theories of ‘money’ led to the progression of the analytical part of this thesis through three individual but related inquiries. The diversity of complementary currencies and their differences to conventional money (Chapter 5) raised the question about the way central banks define ‘money’ and ‘currencies’ and whether or not those are suitable for analysing and regulating contemporary monetary practices. Since no clear and consistent definition was found in this inquiry (Chapter 6), the law as the assumed foundation for monetary regulation was approached with the question of ‘what is money?’.

The preliminary study of popular and expert treatises on the subject revealed apparent contradictions which suggested a deeper inquiry into the authoritative accounts of the subject found in economic and sociological literature as well as the communications of financial regulators. The surprising indications gathered early on, that the theory of something so common and pervasive as ‘money’ would not have a consistent and comprehensive basis,

prompted the search for approaches, both theoretical and methodological, that would allow for an integration of all observed monetary phenomena.

Consequently, the departure points for the analytical work were as broad and generic as the topic itself. Social constructivism, institutionalism and discourse analysis are all approaches to social phenomena that have their origins, applications and implications far beyond monetary research questions. The inherent risk of basing empirical studies on such broad theories lies in the degree of conceptualisation that is required to match them with concrete individual phenomena. One could “therefore conclude that a generally applicable definition of ‘money’ would have to be so broadly written that it would serve no real purpose” (Proctor, 2012, pp. 8–9). Such shortcomings in applicability would not have satisfied the intention of this research to support monetary innovation and contribute to advances towards a more diverse and sustainable economic system.

Conversely, limiting this research in scope to allow for a more comprehensive analysis of one discrete dataset would have fallen short in appraising the relevance and multifaceted nature of monetary phenomena and issues that are currently undergoing a period of potentially radical change. For these reasons, the transdisciplinary approach and the triangulation with three independent but related sets of data was chosen. Consequently, the individual methodologies were chosen to be compatible with each other under the theoretic framework of social constructivism and discursive institutionalism and make the conceptual considerations operational for empirical analysis of texts that span the breadth of the topic.

The proponents of the individual elements of the theoretic and analytical framework presented in Chapters 3 and 4 have themselves suggested a transdisciplinary ‘toolkit’ approach for the appraisal of phenomena through their respective theoretical lenses. In his major work on CDA, Norman Fairclough (Fairclough, 2010, pp. 295–296) attests that:

“Working in a transdisciplinary way is [...] distinguished by a commitment to enter a dialogue with other disciplines and theories, put their logic to work in the development of one’s own theory, methods, research objects, and research agendas. [...] It implies

that we [...] recognise the need to work on the common social opacity of textual analysis by developing our resources for textual analysis through a transdisciplinary way of working."

This is echoed in the account of Davide Nicolini (Nicolini, 2012, p. 214) of practice theory in which he proposes that "to the extent that practice is a multifaceted and multidimensional phenomenon, it can only be empirically approached through a toolkit logic and a collage or heteroglossia, or even carnivalesque, approach." For the use of her concept of discursive institutionalism in research, Vivien Schmidt (2014) herself applies and advocates for this multi-methodological approach.

The two explicit methodologies applied in Chapters 5 and 6, the CHAT model and the grammar of institutions syntax, were both chosen as elements of the potential toolkit to operationalise the theoretic framework. In the way that they both apply the idea of 'rules' to analyse texts as the constituent part of an institution provides sufficient similarities to have applied them side by side. Their proponents, Elinor Ostrom and Yrjö Engeström, also acknowledge the importance and effectiveness of a multi-method, transdisciplinary research design (Lemos *et al.*, 2013, p. 717; Schachter, 2017) and both methodologies have the explicit intention to make opaque social phenomena more accessible and to highlight their implicit inconsistencies, contradictions and conflicts (Crawford and Ostrom, 1995, p. 596; Engeström, 2001, p. 137). Even though no methodology that could be compared to the grammar of institutions or CHAT in terms of rigour or elaborateness was applied in Chapter 7, the lay reading of the law was deemed equally apt to uncover the ambiguities and inconsistencies in that third corpus of texts.

Finally, the CDA lens imbued the inquiry in all its aspects with an acute alertness and openness to the importance of power structures and the influence of individual vested interests in any institutional arrangement. Power appeared in the analysis of complementary currencies within the activity system itself - as the *subject* was defined as the entity that can set, enforce and change *rules* - and between the system and its environment as laws and regulations limit or permit what an initiative can or cannot do. Following the

hierarchy of rule-setting powers predicated the progression of the analysis through discrete but connected discourses of ever higher power: from the individual private-sector currency initiative to the definitions of 'money' espoused by financial regulators and finally, as the highest authority, the law.

The transdisciplinary triangulation of Money and currencies presented here allows for a unique appraisal of the diversity of Money and currencies as social phenomena with an inherent openness to change that is pervaded and limited by top-down power as much as it is enlivened by bottom-up innovation. An orthodox approach to research design with the conventional restriction to literature and methodology would not have been able to deliver this breadth and salience of findings and the richness of implications discussed above. However, the multifaceted nature of this thesis also revealed a number of difficulties and limitations that pose reflective questions about what was achieved, and how future research can complement and advance this current research programme. Each of the theories and methodologies that were deployed and integrated here harbours a theoretical and heuristic level of detail and richness, that could not be fully leveraged in the individual analytical chapters. The individual epistemological foundations of each theory and methodology were only analysed as to their commensurability in regards to social constructivism, institutionalism and discourse theory. A more detailed analysis of the relationship and complementarity of the methods and their philosophical foundations would fortify the possible confluence of economic, social and linguistic theories that was here presumed.

Furthermore, the theoretical framework of discursive institutionalism would have allowed for less multi-faceted routes for the analysis of the variety of monetary phenomena and their individual datasets, from the field of complementary currencies, the communications of central banks and the law texts. For instance, the grammar of institutions alone would have lent itself for the analysis not only of conventional money, but also for a closer appraisal of how complementary currencies are established as institutions. Extrapolating from the findings of Chapter 5 it can here be assumed that a differentiation between rules, norms and strategies could be observed in each currency. The

merits of Crawford and Ostrom's methodology have been shown for a more detailed analysis of laws (Basurto *et al.*, 2010). As such, its application to monetary and financial laws could lend further granularity and insights into how conventional money is currently constituted, and how legal rules are complemented by the norms and strategies, which were found to dominate the definition of 'money' and 'currencies' in the discourse of central banks.

Similarly, the CHAT model may yield insights not only when applied to complementary currencies initiatives, but perhaps if deployed as a methodological lens to analyse conventional money. Analysing central banks, commercial banks, payment operators and other entities that make up the conventional 'financial landscape', reveals the diversity of tools, rules and objectives of conventional money and challenges its appearance as a homogenous phenomenon. In line with the distinction between the concept of Money and currencies as its instantiations, this might lead to a differentiated view of conventional money as a plethora of different currencies - e.g. the Lloyds Currency, the HSBC Currency, along with cash as the Bank of England Currency (compare footnote 22 in Dodd, 2005b, p. 576) - that are only related to each other in as much as they use the same numeraire (Pound Sterling) and are fungible with each other, at least while the issuing banks are solvent. This in turn might lend yet another level of granularity and clarity to the policy implications described above.

The CHAT methodology also offers potential to describe the relationship between currencies and technology and their mutual influences. Despite being an obvious element in our everyday engagement with 'money', particularly as more and more transactions move from cash and cheques to online banking, credit cards, mobile payments and contactless interfaces, the importance of digitalisation seems to have been misjudged by theorists and regulators. While the material correlates of currencies continue to absorb most attention, the laws that regulated them have not been sufficiently updated to include the emergent electronic *tools* in the past century. As mentioned in Chapter 7, a consequence of this can be observed in the fact that commercial banks are today strictly forbidden from printing notes, while

their ability to create conventional money in electronic form is bound only by their own business-strategy. In the same way that the first wave of digitalisation shifted the relative role of central banks and commercial banks in the activity system of conventional money since the 1970s, a second wave with the potential to shift power and practice seems to be underway today. It is commonly identified by the two terms 'blockchain' and 'FinTech', and while there is a general awareness that "money as it has evolved has a crucial relationship with technology" (Lanchester, 2016), the details and effects of technological developments in regard to the theory and instantiation of Money remain opaque. To give but one indication of the degree of the lack of understanding even in the legal profession is the chapter heading in an otherwise sober treatise on monetary law which describes electronic payment systems simply as "electronic channels for zapping funds between bank accounts" (Matthews and Nickles, 2015, p. 407).

The potential of novel technologies for 'disruption' is widely noted (Greenham, McCann and Ryan-Collins, 2014; McKinsey & Company, 2015), but as long as the systemic role and commercial power of the payment system industry in the contemporary financial landscape remains unexamined, the extent and nature of this disruption will fail to adequately inform monetary theory and regulation (Bindewald, 2014). This is likely to become more prominent when current proposals for central banks to issue electronic currency directly to all market participants are put into practice (Barrdear and Kumhof, 2016), potentially alongside a move to restrict or abolish cash altogether (Mason, 2016). These are areas of monetary change that require a consistent theoretic basis and methodological treatment as much as the practice of complementary currencies.

A last route for further research to be mentioned here is the ample opportunity to apply linguistic methodologies under the framework of CDA to the breadth of data that relate to Money and currencies, particularly where the notion of practice is included in what is seen as discourse. The findings from this thesis can serve as entry points, from which more detailed and systematic analyses can follow. The attention to ideology and power that CDA offers is an

important extension to the existing critical literature on 'money' by heterodox economists and sociologists (for example Aglietta and Orléan, 1982; Hart, 1986; Graeber, 2011; Orléan and Debevoise, 2014). Furthermore, the extent to which complementary currencies overtly challenge the hegemonic assumptions of the current capitalist logic has been studied with an explicit critical discourse analysis in the discrete corpus of timebanking websites (Rice, 2014). The diversity of complementary currencies provides an ample source of data to study the power functions embedded in conventional money, at least to the extent that they are perceived, conceptualised and challenged by bottom-up initiatives.

Turning to the other side of the power divide, the communications of central banks, commercial banks, financial regulators and other incumbent actors await further analysis as to the linguistic devices they employ, consciously or habitually, to assert the status quo of 'money as we know it'. The authors referenced in the first section of Chapter 6 (Bank Talk) have already made critical headways into these discourses with questions about accountability, control and monetary policy. What the findings from this thesis show, is that directing critical questions about the concept and theories of Money itself will be a fruitful new direction for the engagement with discourse and power of the financial system.

The same can be said about the systematic application of CDA to legal discourses. A wealth of literature already exists that applies discourse analysis to forensic research questions and the study of police interviews, individual legal and court proceedings (see for example Fairclough, 1989, pp. 68–73, 2010, pp. 31–55; Cotterill, 2002; Shuy, 2011; Finegan, 2012). The same interest and methodological scrutiny applied to the text of laws and statutes themselves has however not been found. The present thesis could only deliver a critical reading from a lay perspective. To further the findings of Chapter 7 requires an analysis by researchers with expertise in linguistics, economics and legal sciences. The value of such inquiry can be seen in a study by barrister and linguist Kate Harrington (2017), published during the final phase of this thesis. She juxtaposes a quantitative corpus analysis of the

word 'money', 'debt' and 'payment' in general language use with an in depth reading of the use the same terms in documentation of legal cases, both historic and contemporary. Her findings confirmed that the ambiguity and elusiveness of 'money' in the laws of the US are also reflected in the laws and legal proceedings of the UK, and that the language of the law, particularly when it come to 'money', is inaccessible and in need of reform (Harrington, 2017, p. 284):

"While this may create good sport for lawyers (for whom exploiting the subtleties and disparities in language use is a professional skill), it potentially disenfranchises everyone else from fully understanding the status of such an important concept or appreciating what the consequences might be."

To make this case to policy makers and legislators, against what their lobbyist council of trained lawyers and economics experts from the financial industry might advise, will require more concerted transdisciplinary research that can point beyond the terminological inconsistencies and practical inappropriateness of current laws and regulation in face of an ever changing landscape of monetary practices. However, such a multi-method ambition was found to reach the limits of what a single doctoral research project can deliver. Any non-conventional approach to a thesis of this kind poses particular intellectual demands and also risks for its successful completion that any individual researcher needs to be willing to face. The hope of making systemic reforms of the current financial system attainable through transdisciplinary research rests on the candour and collaboration of academics as well as the willingness of research and advocacy funders to support such efforts. These ambitions are in line with what Norman Fairclough has called for in his "Manifesto for CDA in a time of crisis" (Fairclough, 2010, pp. 14–21) written in the wake of the 2008 financial crisis. Neither the factors nor the conditions that led to that crisis have been overcome today, nor have all strategies for change been sufficiently supported by the collaborative efforts of researchers and theorists. Even though much necessary work in regard to the foundational understanding of Money and currencies was here only uncovered and pointed at, the hope is that this thesis will have contributed its part to this momentous effort.

9 Conclusions - The nouvelle vague

'Sorry, baby, but we can't build today. No inches.'
'Whaddya mean, no inches? We got wood. We got metal. We even got tape measures.'
'Yeah, but you don't understand business. We been using too many inches and there's just no more to go around.'

*Alan Watts:
Does it Matter, 1970*

It has been said that: "One cannot complete a work on the subject of money without at least attempting a definition, even if both the discussion and the conclusion are in some respects inconclusive or unrewarding" (Proctor, 2012, p. 9). With the theory of discursive institutionalism, the clear distinction between Money - the concept - and currencies as its instantiations, and the transdisciplinary approach to analysis this thesis has demonstrated that this assumption need not be true in all cases. The contributions of this thesis to knowledge about a topic so widely discussed, researched and commented on have been several and the implications drawn from them are only unsatisfactory in as much as it would require much more in terms of research, advocacy, education and activism to see them take effect in policy and everyday awareness.

The practice of complementary currencies has here been recognised as a monetary phenomenon irrespective of its fit with conventional 'money' and the way it is defined and controlled by central banks and the law. Contemporary monetary innovations like Bitcoin have started to demand a clearer position as to the question of what 'money' is, and what it isn't, from legislators, regulators and law enforcement agencies. The level of ambiguity and inconsistency here found in regard to that question in the communications of the Bank of England and the laws in the USA calls for a reform of the terminology and oversight principles of monetary regulations even without the prompts from the markets concerned by, and enthused with, the possibilities that cryptocurrencies seem

to offer. However, as the German idiom “Wo kein Kläger, da kein Richter”⁹³ indicates, without complaint there is no redress. The uncertainties that current laws pose for the implementation of unconventional currency systems, have been known to the practitioners and advocates of complementary currencies for many decades. However, the small size of both their operations and legal departments (the latter mostly non existent), meant that compliance issues were for the most part avoided, and often enough waived by regulators and judges.

This peculiar situation might be coming to an end now that venture capitalist backed entrepreneurs as well as institutional investors have started to see certain complementary currencies as an opportunity for unprecedented profit. They are unlikely to take maybe for an answer. Moreover, the contradictory affirmations about the legal status of complementary currencies given by different authorities at the time of writing only reflect the findings and consequences of definitory and terminological inconsistencies discussed in this thesis. As a recent example, the European Central Bank published a statement saying that Bitcoin is not a currency and it falls outside its mandate to regulate it (European Central Bank, 2018), while virtually at the same time the German Ministry of Finance declared, just as explicitly, that the use of bitcoins and other “so called cryptocurrencies will be treated as equal to conventional means of payment” (my translation, Bundesministerium der Finanzen, 2018). It is only a matter of time until such inconsistencies become untenable. The question, however, remains: behind which cause or interest will the required popular demand for clarification rally?

The widespread media attention, spurred by accounts of unprecedented returns and new forms of crime which trailed the rise of Bitcoin with little delay, has contributed at least one positive element to this situation: nearly everybody has at least become aware now, that ‘money’ can be entirely different from what we are used to. Shortly before the submission of this thesis, even the Merriam-Webster dictionary has included the terms ‘cryptocurrency’ and ‘initial coin offering’ to its latest edition (Merriam-Webster

⁹³ The literal translation would be “where there is no plaintiff, there is no judge”.

Dictionary, 2018). Consequently, calls for better regulation might find more popular support than they did after the last financial crisis, when protecting the status quo seemed entirely without alternative.

At the same time, however, popular books such as “How to speak money?” (Lanchester, 2015), receive praise for allegedly elucidating the topic without even attempting a definition of ‘money’ in their glossary. All that it is offered by way of explanation is that ‘money’ is a “subject of immense difficulty” (Lanchester, 2015, p. 37), which is made palpable by obsolete and, as was discussed earlier, obfuscatory framings like printing presses run by the government (Lanchester, 2015, p.39). And as long as such uncritical ‘naturalisation’ of money is reinforced by the way central banks make a display of other people’s gold that is safeguarded in their vaults when they are trying to explain how conventional money actually works today, fundamental changes to the way ‘money’ is portrayed and thought about seem a distant hope.

The theoretic framework of ‘discursive institutionalism’ and the findings derived from it in this thesis show how the stories we tell about ‘money’ are not only relevant in situating its practical use in “what is sayable and tellable in a particular cultural milieu” (Mooney and Sifaki, 2017, p. 12), but that there is little else to ‘money’ but stories. Furthermore, with every uncritical transaction we are all contributing to these stories. Where chartalists have already used this analogy to point out how the metalists’ “story is wrong [and] inconsistent with the findings of historians, anthropologists, legal scholars, sociologists, and political scientists” (Wray, 2012a, p. 2), this thesis has demonstrated how even the story relating ‘money’ exclusively to the state cannot account for the phenomena of today’s conventional money, and even less for the practice of complementary currencies.

Remaining with the analogy of ‘money as a story’, the unique value of complementary currencies becomes the novelty and variation that they introduce to that collective story. Where the conventional story is still so pervasive that its hegemonic status seems impossible to challenge other than in practice, complementary currencies offer the opportunity to “recreate the

social processes of exchange fundamentally or even replace it entirely with forms of a creative sociality, - to form a social space in which we can learn to think and act differently” (my translation, Graupe, 2017b, p. 146). In these terms, the recognition of and participation in alternative economic processes such as complementary currencies becomes an educational act of emancipation. Any unconventional currency can thus be attributed the label of a “currency of transition” (Bendell and Greco, 2013), contributing to the deconstruction of the discourse of money as we know it.

This, however, has consequences for our engagement with currencies, conventional and complementary, even on the trivial level. If “the art of resistance against ruling habits of our economic lives is not so much in mere activism and neither in the inventions of grand theories, but in creative everyday actions” (my translation, Graupe, 2017b, p. 150), an acute attention to our habits and conditioning is required. Every time we use conventional money, buy a house, choose a bank or pay with a corporate app, explain money to our students or a child, or complain about it to friends, our practical or communicative transactions are prone to contribute to the reification and naturalisation of ‘money as we know it’ rather than its change.

The engagement with novel forms of currency might be even more insidious. Every time we look at the bitcoin price chart with the lazy eyes of our inner homo economicus, we contribute to this real innovation becoming more deeply imbued with the attributes and effects of the capitalist economy that many advocates of complementary currencies are trying so hard to dispel. Lauding the blockchain technology for its revolutionary advantages needs to be contrasted with the negative effects it might have when a given implementation of this technology for currencies is measured against sustainability indicators. For example, the economic inequality of the Bitcoin network surpasses that of even conventional money (Ron and Shamir, 2013), the energy consumption of its mining network recently surpassed that of the entire Republic of Ireland (Hern, 2017) and its monetary value does not correlate with the good judgement of savvy people but the number of overall

users (Alabi, 2017), which makes it akin to a Ponzi scheme without fraudulent intention.

Applying the lens of social constructivism and critical discourse analysis to our everyday involvement with 'money' is as humbling and frustrating as it is important. This is also true for spending the best parts of three years on this academic inquiry in which I set out to discover if the espoused definitions of money are consistent with the phenomena of currencies both conventional and complementary. The answer to this research question was found to be no. Moreover, many additional contributions to knowledge in terms of theory and methodology have been achieved along the way. The framing of discursive institutionalism has allowed for a theoretic integration of all currencies, as instantiation of the concept of Money, from the Pound Sterling to timebanks, Bitcoin and, as far as one can suppose, any other past, present and future. The institutional analysis has also provided a methodological way to uncover the terminological discrepancies in the definitions of 'money' in the authoritative discourses of the Bank of England and the laws of the United States of America.

However, apart from the suggestions for more commensurable and equitable policies and future research programmes discussed in the previous chapter, these contributions to knowledge do not answer the questions about how to leverage the results of this thesis towards positive impact or its ultimate contribution to a better financial system. The length of the pathway from academic research to social change can only be appraised in retrospect. Looking towards the future, the degree to which any piece of new knowledge will unfold its effects is impossible to know.

And yet, the social constructivist paradigm also offers the thought that one simply cannot not change the world. Every utterance, action, or even non-action matters and no individual step is the first or last in the collective discursive journey. From this perspective, there seems no better start to nudge a linguistic turn in economics and an open participatory debate about the sort of economy we want than by applying discursive theory to the core of economics and the economy: 'money'. The hope here is that unravelling its

grammar will provide new vocabularies, for everyday conversations and methodological analysis, that can help overcome the mental prisons and, in some contexts, even the explicit taboos around our engagement with the concept of Money and the ways we instantiate and use it as currencies.

This might seem insignificant and might even prove to be so; it will remain to be judged by those who read this and the degree to which they integrate the ideas here presented into their own research, communications and practices. Most discourses move slowly and pervasive social systems are self-reinforcing and characterised by inertia. The contemporary debates about gender equality, for example, could not have happened without first challenging accepted wisdom around marriage, democratic participation and sexuality, conversation by conversation, for at least a century. Opening up conversations about Money and currencies in that way might take even longer. However, at the confluence of all the individual ruptures that have already occurred, the digitalisation of national currencies, the persistence and diversity of complementary currencies, the financial crisis of 2008, the rise of Bitcoin, the Positive Money campaign and, in some small way even this thesis, might lead to a fundamental change to the discursive institution that facilitates so many of our interactions.

The next notable event in this lineage might be the Swiss referendum, on June 10th 2018, about restricting commercial banks in their privilege to create electronic Swiss Francs and revert control to the government over how much of this currency is to be in circulation (*Vollgeld Initiative Schweiz*, no date). Even if these proposals are rejected by popular vote, conversations will have changed. If they are accepted, new laws will be written. The way these would define 'money' and allow or disallow for the private issuance of other currencies not denominated in Swiss Franc will contribute a new chapter to the story of 'money', at least to the Swiss edition of it. Money is and will continue to be constantly changing, as are the theories, framings, regulations, and laws that describe it. New sentences, some pivotal and some marginal, are constantly added to its story - but not here.

Bibliography

- Abbott, A. (1995) 'Things of Boundaries', *Social Research*, 62(4), pp. 857–882.
- Aboelela, S. W. *et al.* (2007) 'Defining Interdisciplinary Research: Conclusions from a Critical Review of the Literature', *Health Services Research*, 42(1), pp. 329–346.
- Aglietta, M. and Orléan, A. (1982) *La violence de la monnaie*. Presses Universitaires de France.
- Alabi, K. (2017) 'Digital blockchain networks appear to be following Metcalfe's Law', *Electronic Commerce Research and Applications*. Elsevier, 24, pp. 23–29.
- Ali, R., Barrdear, J., Clews, R., Southgate, J., *et al.* (2014) 'Innovations in payment technologies and the emergence of digital currencies.', *Bank of England Quarterly Bulletin*, 54(3), pp. 262–276.
- Ali, R., Barrdear, J., Clews, R. and Southgate, J. (2014) 'The economics of digital currencies', *Bank of England Quarterly Bulletin*, 54(3), pp. 276–287.
- Amann, S. (2011) *The Good Bankers: Battling the Financial Lobby in Brussels*, *Spiegel Online*. Available at: <http://www.spiegel.de/international/business/the-good-bankers-battling-the-financial-lobby-in-brussels-a-793917.html> (Accessed: 2 March 2018).
- Amato, M. and Fantacci, L. (2016) 'Failures on the market and market failures: a complementary currency for bankruptcy procedures', *Cambridge Journal of Economics*, 40(5), pp. 1377–1395.
- Amsterdam City Council (2015) *Community Currencies - Opportunities and challenges for local government*, CCIA Project. Available at: <http://communitycurrenciesinaction.eu/community-currencies-and-local-government/>.
- Anabtawi, I. and Schwarcz, S. L. (2013) 'Regulating Ex Post: How Law Can Address the Inevitability of Financial Failure', *Texas Law Review*, 92(75), pp. 75–131.
- Andrews, J. (2017) *Why everyone's talking about Bitcoin - what it is, what's changed and is it time to buy?*, *Mirror Online*. Available at: <https://www.mirror.co.uk/money/everyones-talking-bitcoin-what-is-11659687> (Accessed: 13 February 2018).

- Apple (2016) *Brixton Pound App*. Available at: <https://itunes.apple.com/gb/app/brixton-pound/id1178370821?mt=8> (Accessed: 12 March 2018).
- Aristotle (1975) *The Nicomachean Ethics: Translation with Commentaries and Glossary*. Edited by H. G. Apostle. Reidel.
- Aristotle (1981) *The politics*. Edited by T. A. Sinclair. Penguin Books.
- Bachelor, L. (2015) *Ban misleading account names, banks told, The Guardian*. Available at: <http://www.theguardian.com/money/2015/jul/23/ban-misleading-account-names-banks-told> (Accessed: 21 October 2017).
- Bajpai, P. (no date) *Countries Where Bitcoin Is Legal & Illegal, Investopedia*. Available at: <https://www.investopedia.com/articles/forex/041515/countries-where-bitcoin-legal-illegal.asp> (Accessed: 13 March 2018).
- Baker, P. and Ellece, S. (2011) *Key Terms in Discourse Analysis*. Continuum.
- Bank of England (2013) *The role of the Bank of England - Part 2, You Tube*. Available at: <https://www.youtube.com/watch?v=-d0-8tr6DGo> (Accessed: 12 March 2018).
- Bank of England (2014a) *97% of broad money takes the form of bank deposits – which are created by commercial banks, Twitter*. Available at: <https://twitter.com/bankofengland/status/443763359293243393> (Accessed: 21 October 2017).
- Bank of England (2014b) *Money in the modern economy: an introduction - Quarterly Bulletin article, YouTube*. Available at: <https://www.youtube.com/watch?v=ziTE32hiWdk> (Accessed: 12 March 2018).
- Bank of England (2015a) *Inside the Bank of England*. Available at: <http://www.bankofengland.co.uk/education/Documents/museum/insidetheboe.pdf> (Accessed: 11 August 2017).
- Bank of England (2015b) *The Bank of England's Sterling Monetary Framework*. Bank of England.
- Bank of England (2016a) *About Us, Knowledge Bank*. Available at: <http://edu.bankofengland.co.uk/knowledgebank/about-us/> (Accessed: 12 March 2018).
- Bank of England (2016b) *Why does money depend on trust?, Knowledge Bank*. Available at: <http://edu.bankofengland.co.uk/knowledgebank/why-does-money-depend-on-trust/> (Accessed: 3 September 2017).
- Bank of England (2017a) *The Bank's Strategic Plan: Vision 2020, About the Bank*. Available at:

<http://www.bankofengland.co.uk/about/Pages/strategicplan/default.aspx>
(Accessed: 1 November 2017).

Bank of England (2017b) *What does the Bank of England do?* Available at:
<https://www.bankofengland.co.uk/about> (Accessed: 12 March 2018).

Bank of England (2018) *Scottish and Northern Ireland banknotes*. Available
at: <https://www.bankofengland.co.uk/banknotes/scottish-and-northern-ireland-banknotes> (Accessed: 13 March 2018).

Bank of International Settlements (2014) *Non-banks in retail payments*.
Available at: <https://www.bis.org/cpmi/publ/d118.htm>.

Barkawi, A. (2017) *Why monetary policy should go green*, *ft.com*. Available at:
<http://ftalphaville.ft.com/2017/05/18/2189013/guest-post-why-monetary-policy-should-go-green/> (Accessed: 6 January 2018).

Barkham, P. (2009) *G20 protests: carnival of the rainbow coalition turns nasty*,
The Guardian. Available at:
<https://www.theguardian.com/world/2009/apr/02/g20-protests-london-rbs>.

Barrdear, J. and Kumhof, M. (2016) *The macroeconomics of central bank
issued digital currencies*, *Staff Working Paper*. 605. Bank of England.

Barter News (2000) *Tuesday Report - May 30, 2000, Weekly Newsletter*.
Available at: <https://barternews.com/archive/05-30-00.htm> (Accessed: 20
February 2018).

Basurto, X. *et al.* (2010) 'A Systematic Approach to Institutional Analysis:
Applying Crawford and Ostrom's Grammar', *Political Research Quarterly*,
63(3), pp. 523–537.

BBC News (2012) *Queen visits Bank of England, 13 December*. Available at:
<http://www.bbc.co.uk/news/av/uk-20714197/queen-visits-bank-of-england>
(Accessed: 12 March 2018).

Bell, S. (1998) *The Hierarchy of Money*, *Levy Institute Working Papers*. 231.

Bendell, J. (2017) 'Currency Innovation for Sustainable Financing of SMEs',
Journal of Corporate Citizenship, 67, pp. 39–62.

Bendell, J. and Greco, T. (2013) 'Currencies of transition Transforming money
to unleash sustainability', in McIntosh, M. (ed.) *The Necessary Transition: The
Journey towards the Sustainable Enterprise Economy*. Sheffield: Greenleaf
Publishing, pp. 221–242.

Bendell, J. and Slater, M. (2014) *Week 4: Alternatives, IFLAS Money and
Society MOOC*. Available at: <http://mooc1.communityforge.net/lesson/4>
(Accessed: 22 August 2017).

- Bendell, J. and Slater, M. (2017) 'Thwarting an Uber Future for Complementary Currencies : Open Protocols for a Credit Commons .', in *IV International Conference on Social and Complementary Currencies*. Barcelona.
- Berry, C., Ryan-Collins, J. and Greenham, T. (2015) *Financial System Resilience: Building a strong financial system*. New Economics Foundation.
- Berry, S. *et al.* (2007) 'Interpreting movements in broad money', *Bank of England Quarterly Bulletin*, 47(3), pp. 376–388.
- Berthe, J., Gan, J. and Nolle, D. (2005) 'Global Banking Regulation and Supervision', *Global Banking Issues*.
- Bholat, D. and Darbyshire, R. (2016) *Accounting in central banks*, *Staff Working Paper*. 604. Bank of England.
- Bholat, D., Grant, J. and Thomas, R. (2015) *Monies – Joining Economic and Legal Perspectives*, *Bank Underground*. Available at: <https://bankunderground.co.uk/2015/08/21/monies-joining-economic-and-legal-perspectives/> (Accessed: 24 July 2017).
- Bidder, B. (2018) *US-Nobelpreisträger zum Bitcoin: Was bringt Blasen zum Platzen, Herr Shiller?*, *Spiegel Online*. Available at: <http://www.spiegel.de/wirtschaft/unternehmen/bitcoin-nobelpreistraeger-robert-shiller-warnt-vor-einer-spekulationsblase-ist-a-1188859.html> (Accessed: 23 January 2018).
- Bindewald, L. (2007) *Das Recht auf Eigentum in den Menschenrechten*. Available at: <http://critical.net/wp-content/uploads/2015/12/HS-Menschenrechte.pdf>.
- Bindewald, L. (2009) *Erkenntniskritische Betrachtungen zum ökonomischen Menschenbild Friedrich August von Hayeks*. Available at: <http://critical.net/?p=1271>.
- Bindewald, L. (2014) *Why Bitcoin hasn't changed finance – yet*, *New Economics Foundation*. Available at: <http://critical.net/why-bitcoin-hasnt-changed-finance-yet/> (Accessed: 12 March 2018).
- Bindewald, L. (2015) *You need never use a bank again. Here's why*, *The Guardian*. Available at: <https://www.theguardian.com/sustainable-business/2015/jul/07/banking-sector-credit-unions-local-currency-money> (Accessed: 3 March 2018).
- Bindewald, L. and Steed, S. (2013) *No small change: Evaluation the success of your community currency project*. New Economics Foundation.

Birch, D. (2014) *In a cashless society, what will the new currency be? Your reputation*, *The Guardian*. Available at: <http://www.theguardian.com/commentisfree/2014/may/07/cashless-society-new-currency-reputation-coins-notes-identity-transactions> (Accessed: 29 December 2017).

Bitcoin.org (no date a) *Bitcoin Exchanges*. Available at: <https://bitcoin.org/en/exchanges> (Accessed: 12 March 2018).

Bitcoin.org (no date b) *Choose your wallet*. Available at: <https://bitcoin.org/en/choose-your-wallet> (Accessed: 12 March 2018).

Bitcoin.org (no date c) *Community*. Available at: <https://bitcoin.org/en/community> (Accessed: 12 March 2018).

Bitcoin.org (no date d) *Download - Bitcoin*. Available at: <https://bitcoin.org/en/download> (Accessed: 12 March 2018).

Bitcoin.org (no date e) *FAQs*. Available at: <https://bitcoin.org/en/faq> (Accessed: 12 March 2018).

Bitcoin.org (no date f) *Homepage*. Available at: <https://bitcoin.org/en/> (Accessed: 13 March 2018).

Bitcoin Core (2009a) *About*. Available at: <https://bitcoin.org/en/bitcoin-core/about-site> (Accessed: 12 March 2018).

Bitcoin Core (2009b) *Bitcoin Development*. Available at: <https://bitcoin.org/en/development> (Accessed: 12 March 2018).

Bitcoin Wiki (no date a) *Controlled supply*. Available at: https://en.bitcoin.it/wiki/Controlled_supply (Accessed: 12 March 2018).

Bitcoin Wiki (no date b) *Payment Processors*. Available at: https://en.bitcoin.it/wiki/Category:Payment_Processors (Accessed: 12 March 2018).

Bitcoin Wiki (no date c) *Prohibited changes*. Available at: https://en.bitcoin.it/wiki/Prohibited_changes (Accessed: 12 March 2018).

Bitcoin Wiki (no date d) *Wallet*. Available at: <https://en.bitcoin.it/wiki/Wallet> (Accessed: 12 March 2018).

BitInfoCharts (no date) *Bitcoin Rich List*. Available at: <https://bitinfocharts.com/top-100-richest-bitcoin-addresses.html> (Accessed: 12 March 2018).

Bitnodes.org (no date) *Global Bitcoin Nodes Distribution*. Available at: <https://bitnodes.earn.com/> (Accessed: 12 March 2018).

- Bjerg, O. (2014) *Making money: the philosophy of crisis capitalism*. Verso.
- Blanc, J. (2011) 'Classifying "CCs": Community, complementary and local currencies' types and generations', *International Journal of Community Currency Research*, 15, pp. 4–10.
- Blanc, J. et al. (2013) 'Monetary Plurality in Economic Theory', in *Proceedings of the 2nd international conference and Complementary and Community Currencies*, The Hague, pp. 1–33.
- Blanc, J. (2017) 'Unpacking monetary complementarity and competition: A conceptual framework', *Cambridge Journal of Economics*, 41, pp. 239–257.
- Bland, J. (2013) *Should you trust Bitcoin? It depends on what you think the virtual currency is for*, *The Guardian*. Available at: <http://www.theguardian.com/science/political-science/2013/jul/05/bitcoin-virtual-currency> (Accessed: 13 February 2018).
- Blinder, A. S. (2008) *Talking about Monetary Policy: The Virtues (and Vices?) of Central Bank Communication*. 164.
- Blockchain.info (no date) *Total Number of Transactions*. Available at: <https://blockchain.info/charts/n-transactions-total> (Accessed: 12 March 2018).
- Bodenhorn, H. (1990) 'Entry, Rivalry and Free Banking in Antebellum America', *The Review of Economics and Statistics*. The MIT Press, 72(4), pp. 682–686.
- Böhme, R. et al. (2015) 'Bitcoin: Economics, Technology, and Governance', *Journal of Economic Perspectives—Volume*, 29(2—Spring), pp. 213–238.
- Bohr, J. and Bashir, M. (2014) 'Who Uses Bitcoin? An exploration of the Bitcoin community', in *Twelfth Annual Conference on Privacy, Security and Trust*, pp. 94–101.
- Botsman, R. (2017a) *Big data meets Big Brother as China moves to rate its citizens*, *wired.com*. Available at: <http://www.wired.co.uk/article/chinese-government-social-credit-score-privacy-invasion> (Accessed: 1 December 2017).
- Botsman, R. (2017b) *Who can you trust? - How technology brought us together and why it could drive us apart*. Penguin.
- Botsman, R. and Rogers, R. (2011) *What's mine is yours: how collaborative consumption is changing the way we live*. Collins.
- Boyer, R. and Orléan, A. (1993) 'How do conventions evolve?', in Witt, P. D. U. (ed.) *Evolutions in Markets and Institutions*. Physica, pp. 17–29.

- Boyle, D. (2011) *More than Money - Platforms of exchange and reciprocity in public services*. Available at:
<http://www.nesta.org.uk/publications/assets/documents/More Than Money>.
- Bradley, C. *et al.* (2009) 'Alternative Financial Services: A Primer', *FDIC Quarterly*, 39(1), pp. 39–47.
- Brakken, M. *et al.* (2012) 'Trophic currencies: eco-system modeling and resilient economies', *International Journal of Community Currency Research*, 16 (D), pp. 169–175.
- Brixton Pound (2012) *Business Rates are live!* Available at:
<http://brixtonpound.org/blog2/2012/08/30/business-rates-are-live/> (Accessed: 12 March 2018).
- Brixton Pound (2013) *Annual accounts 2013*. Available at:
<https://beta.companieshouse.gov.uk/company/07635113>.
- Brixton Pound (2014) *Terms and Conditions*. Available at:
<https://brixtonpound.community-currency.org/en/footer/terms-and-conditions/>
 (Accessed: 12 March 2018).
- Brixton Pound (2015a) *Advisory Group*. Available at:
<http://brixtonpound.org/advisory-group> (Accessed: 12 March 2018).
- Brixton Pound (2015b) *Brixton Fund*. Available at: <http://brixtonpound.org/fund>
 (Accessed: 12 March 2018).
- Brixton Pound (2015c) *Brixton Pound Board*. Available at:
<http://brixtonpound.org/board> (Accessed: 12 March 2018).
- Brixton Pound (2015d) *Directory*. Available at:
<http://brixtonpound.org/directory> (Accessed: 12 March 2018).
- Brixton Pound (2015e) *For Businesses*. Available at:
<http://brixtonpound.org/businesses> (Accessed: 12 March 2018).
- Brixton Pound (2015f) *Frequently Asked Questions*. Available at:
<http://brixtonpound.org/faqs> (Accessed: 12 March 2018).
- Brixton Pound (2015g) *Get involved*. Available at:
<http://brixtonpound.org/getinvolved> (Accessed: 12 March 2018).
- Brixton Pound (2015h) *Get Paper Brixton Pounds*. Available at:
<http://brixtonpound.org/get-brixton-paper-pounds> (Accessed: 12 March 2018).
- Brixton Pound (2015i) *How to spend*. Available at:
<https://brixtonpound.community-currency.org/en/how-spend/> (Accessed: 12 March 2018).

Brixton Pound (2015j) *Learn More*. Available at: <http://brixtonpound.org/learn-more> (Accessed: 12 March 2018).

Brixton Pound (2015k) *Partner Organisationen*. Available at: <http://brixtonpound.org/supporters> (Accessed: 12 March 2018).

Brixton Pound (2015l) *Registration Form*. Available at: <https://brixtonpound.community-currency.org/en/register/> (Accessed: 12 March 2018).

Brixton Pound (2015m) *Sign Up Your Business*. Available at: <http://brixtonpound.org/sign-up-your-business> (Accessed: 12 March 2018).

Brixton Pound (2015n) *Space for hire*. Available at: <http://brixtonpound.org/spacehire> (Accessed: 12 March 2018).

Brixton Pound (2015o) *The Brixton Pound in the media*. Available at: <http://brixtonpound.org/media> (Accessed: 12 March 2018).

Brixton Pound (2015p) *We're hiring!* Available at: <http://brixtonpound.org/blog/2014/06/06/were-hiring/> (Accessed: 12 March 2018).

Brixton Pound (2015q) *What is the Brixton Pound?* Available at: <http://brixtonpound.org/what> (Accessed: 12 March 2018).

Brixton Pound (2016) *Annual Report & Financial Statements*. Available at: <https://beta.companieshouse.gov.uk/company/07635113>.

Broadbent, B. (2016) 'Speech: Central banks and digital currencies'. Bank of England.

Brock, A. (2015) *Transitioning to the New Economy*. Available at: <https://prezi.com/-qiaswjo975y/transitioning-to-the-new-economy/?webgl=0> (Accessed: 11 March 2018).

Brock, A. (2016) *The MetaCurrency Myth*. Available at: <http://artbrock.com/blog/metacurrency-myth> (Accessed: 11 March 2018).

Brodbeck, K. (2013a) *Die Herrschaft des Geldes*. Wissenschaftliche Buchgesellschaft.

Brodbeck, K. (2013b) *Phänomenologie des Geldes*. Available at: <http://www.khbrodbeck.homepage.t-online.de/phaenom.pdf>.

Brodbeck, K.-H. and Graupe, S. (2017) *Geld! Welches Geld? Geld als Denkform*. Metropolis-Verlag.

Brooks, S. (2015) 'How green is our money? Mapping the relationship between monetary systems and the environment.', *International Journal of Community Currency Research*, 19, pp. 12–18.

BSI Group (2013) *Capacity Trading Standardisation Workshop Report*. Available at: [https://www.cityoflondon.gov.uk/business/economic-research-and-information/research-publications/Documents/research-2013/Capacity Trading Workshop Report.pdf](https://www.cityoflondon.gov.uk/business/economic-research-and-information/research-publications/Documents/research-2013/Capacity%20Trading%20Workshop%20Report.pdf).

Bundesministerium der Finanzen (2018) *Umsatzsteuerliche Behandlung von Bitcoin und anderen sog. virtuellen Währungen*. Available at: http://www.bundesfinanzministerium.de/Content/DE/Downloads/BMF_Schreiben/Steuerarten/Umsatzsteuer/Umsatzsteuer-Anwendungserlass/2018-02-27-umsatzsteuerliche-behandlung-von-bitcoin-und-anderen-sog-virtuellen-waehrungen.pdf;jsessionid=41D281B5241D47C388EF2F (Accessed: 9 March 2018).

Burr, V. (2003) *Social constructionism*. Routledge.

Burrus, D. (2016) *Why Reputation, Credibility and Trust Are the Currency in the Sharing Economy*, *Huffington Post*. Available at: https://www.huffingtonpost.com/daniel-burrus/why-reputation-credibility_b_9857400.html (Accessed: 29 December 2017).

Bush, O., Knott, S. and Peacock, C. (2014) 'Why is the UK banking system so big and is that a problem?', *Quarterly Bulletin Bank of England*, 4, pp. 385–395.

Cahn, E. (2010) *What about taxes?* Available at: [http://actionhub.timebanks.org/sites/default/files/public_files/What about taxes.pdf](http://actionhub.timebanks.org/sites/default/files/public_files/What%20about%20taxes.pdf).

Cahn, E. S. (2000) *No more throw-away people: the co-production imperative*. Essential.

California Code of Civil Procedures (2017) *Uniform Foreign-Money Claims Act, California Legislative Information*. Available at: http://leginfo.ca.gov/faces/codes_displayText.xhtml?lawCode=CCP&division=&title=8.5.&part=2.&chapter=&article= (Accessed: 13 August 2017).

California Financial Code (2017) *Money Transmission Act, California Legislative Information*. Available at: http://leginfo.ca.gov/faces/codes_displayText.xhtml?lawCode=FIN&division=1.2.&title=&part=&chapter=1.&article= (Accessed: 13 August 2017).

Cambridge University Press (no date) 'monies', *Cambridge Dictionary*.

- Campana, M. (2014) *Funny Money: An ethnography of local currencies*, *ethnographymatters.net*. Available at: <http://ethnographymatters.net/blog/2014/02/14/funny-money/> (Accessed: 8 February 2018).
- Capie, F. H. et al. (2003) *E-barter versus fiat money: will central banks survive?*, *Bank of England Working Paper*. 197. Bank of England.
- Caprio, G. and Klingebiel, D. (1996) *Bank Insolvencies: Cross-country Experience*, *The World Bank Policy Research*. World Bank.
- CCIA (2012) *Community Currencies in Action*. Available at: www.ccia.eu.
- CCIA (2014) *SoNantes*. Available at: <http://communitycurrenciesinaction.eu/currency-pilot-sonantes/> (Accessed: 12 March 2018).
- CCIA (2015a) *Brixton Pound*, *community-currency.info*. Available at: <http://community-currency.info/en/currencies/brixton-pound/> (Accessed: 12 March 2018).
- CCIA (2015b) *CCIA Legal and Compliance Toolkit*, *ccia.eu*. Available at: <http://communitycurrenciesinaction.eu/toolkit-legal-and-compliance> (Accessed: 15 December 2015).
- CCIA (2015c) *Dane County Timebank*, *community-currency.info*. Available at: <http://community-currency.info/en/currencies/dane-county-timebank/> (Accessed: 12 March 2018).
- CCIA (2015d) *Different Regulatory Approaches to the Application of Financial Services Legislation to Complementary Currencies in North West Europe*. Available at: <http://communitycurrenciesinaction.eu/toolkit-legal-and-compliance/>.
- CCIA (2015e) *Legal and compliance analysis of the Lambeth Pound*. Available at: <http://communitycurrenciesinaction.eu/toolkit-legal-and-compliance/>.
- CCIA (2015f) *Legal and Regulatory Framework for Complementary Currencies in Belgium*. Available at: <http://communitycurrenciesinaction.eu/toolkit-legal-and-compliance/>.
- CCIA (2015g) *Legal and Regulatory Framework for Complementary Currencies in the UK*. Available at: <http://communitycurrenciesinaction.eu/toolkit-legal-and-compliance/>.
- CCIA (2015h) *People Powered Money - Designing, developing & delivering community currencies*. Edited by L. Bindewald, A. Martin, and D. McCann. New Economics Foundation.

CCIA (2015i) *Timebanking*, *community-currency.info*. Available at: <http://community-currency.info/en/glossary/timebanks/> (Accessed: 12 March 2018).

CCIA (2015j) *WIR Bank*, *community-currency.info*. Available at: <http://community-currency.info/en/currencies/wir-bank/> (Accessed: 12 March 2018).

CCIA and Jansky, F. (2015) *Legal and Regulatory Framework for Complementary Currencies in Germany*. Available at: <http://communitycurrenciesinaction.eu/toolkit-legal-and-compliance/>.

Chatham House (2013) *Bitcoin, Alternative Currencies and the Future of Money*. Available at: <https://www.chathamhouse.org/events/view/195083#> (Accessed: 13 March 2018).

Cihak, M. and Demirguc-Kunt, A. (2012) 'Bank regulation and supervision around the world: a crisis update', *World Bank Policy Research Working Paper*, 6286.

Claessens, S. and Kodres, L. (2014) 'The Regulatory Responses to the Global Financial Crisis: Some Uncomfortable Questions', *IMF Working Papers*, 46.

Clark, A. (2009) *Penniless California issues IOUs to firms, clinics, taxpayers and students*, *The Guardian*. Available at: <https://www.theguardian.com/world/2009/jul/12/california-issues-iou> (Accessed: 1 February 2018).

Clement, N. et al. (2017) 'Timebanking, Co-Production and Normative Principles: Putting Normative Principles Into Practice', *International Journal of Community Currency Research*, 21(21), pp. 36–52.

Code of Federal Regulations (2017) 31 CFR Ch. X - FINCEN: General Definitions. Available at: <https://www.law.cornell.edu/cfr/text/31/1010.100> (Accessed: 13 August 2017).

Cohen, B. J. (2004) *The future of money*. Princeton University Press.

Cohen, M. L. and Olson, K. C. (2016) *Legal research in a nutshell*. West Academic Publishing.

Cohen, P. (2016) *At the World Bank, a Shortage of Concrete (Language)*, *The New York Times*. Available at: <https://www.nytimes.com/2016/04/15/upshot/at-the-world-bank-a-shortage-of-concrete-language.html> (Accessed: 12 March 2018).

Collier, A. (1994) *Critical realism : an introduction to Roy Bhaskar's philosophy*. Verso.

Collom, E. (2012) 'Key Indicators of Time Bank Participation', *International Journal of Community Currency Research*, 16, pp. 18–29.

Company House (2017) *Brixton Pound CIC - Overview*. Available at: <https://beta.companieshouse.gov.uk/company/07635113> (Accessed: 6 February 2018).

Corporate Europe Observatory (2017) *Open doors for forces of finance*. Available at: <https://corporateeurope.org/financial-lobby/2017/10/open-doors-forces-finance> (Accessed: 2 March 2018).

Cotterill, J. (2002) 'Introduction: Language in the Legal Process', in Cotterill, J. (ed.) *Language in the Legal Process*. Palgrave Macmillan.

Crawford, S. E. and Ostrom, E. (1995) 'A Grammar of Institutions', *The American Political Science Review*, 89(3), pp. 582–600.

Davies, G. (1994) *A History of Money: From Ancient Times to the Present Day, Economic Affairs*. University of Wales Press.

DCTB (2012a) *By Laws*. Available at: http://weebly.com/uploads/3/9/5/6/3956131/dctb_bylaws_revised3.12.doc.

DCTB (2012b) *Member Application*. Available at: https://assets.danecountytimebank.org/Dane_County_TimeBank_app.pdf.

DCTB (2012c) *Member Guide*. Available at: https://assets.danecountytimebank.org/member_guide.pdf (Accessed: 14 February 2018).

DCTB (2012d) *Safety Guidelines*. Available at: https://assets.danecountytimebank.org/safety_guidelines.pdf (Accessed: 14 February 2018).

DCTB (2012e) *Terms and Conditions for Organizational Members*. Available at: https://assets.danecountytimebank.org/organization_Terms&Conditions.pdf.

DCTB (2014) *Strategic Plan 2014-2016*. Available at: <https://assets.danecountytimebank.org/DCTBStrategicPlan2014-16.pdf> (Accessed: 12 March 2018).

DCTB (2017) *2016 Annual Report*. Available at: https://danecountytimebank.org/sites/danecountytimebank.org/files/2016_annual_report.pdf.

DCTB (2018a) *Contact*. Available at: <https://danecountytimebank.org/contact> (Accessed: 12 March 2018).

- DCTB (2018b) *Dane County TimeBank*. Available at: <https://www.danecountytimebank.org/home> (Accessed: 12 March 2018).
- DCTB (2018c) *Exchange*. Available at: <https://www.danecountytimebank.org/search/exchange> (Accessed: 12 March 2018).
- DCTB (2018d) *FAQ*. Available at: <https://www.danecountytimebank.org/faq> (Accessed: 12 March 2018).
- DCTB (2018e) *Mobile Site*. Available at: <https://m.danecountytimebank.org/> (Accessed: 12 March 2018).
- DCTB (2018f) *News*. Available at: <https://www.danecountytimebank.org/news/> (Accessed: 12 March 2018).
- DCTB (2018g) *Our Organization*. Available at: <https://www.danecountytimebank.org/our-organization> (Accessed: 12 March 2018).
- DCTB (2018h) *Tools for TimeBankers*. Available at: <https://www.danecountytimebank.org/tools-timebankers> (Accessed: 12 March 2018).
- Degens, P. (2016) 'Between "Market" and "Reciprocity": How Businesses Use Local Currencies', *Behemoth: A Journal on Civilisation*, 9(2), pp. 22–36.
- DeMeulenaere, S. (2008) '2007 Annual Report of the Worldwide Database of Complementary Currency Systems', *International Journal of Community Currency Research*, 12, pp. 2–19.
- Department for Business Energy & Industrial Strategy (2016) *Office of the Regulator of Community Interest Companies: Information and guidance notes*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/605420/13-711-community-interest-companies-guidance-chapters-8-statutory-obligations.pdf (Accessed: 9 February 2018).
- Department of the Treasury (2011) *Legal Tender Status*. Available at: <https://www.treasury.gov/resource-center/faqs/Currency/Pages/legal-tender.aspx> (Accessed: 13 March 2018).
- Department of the Treasury, Federal Reserve System and Federal Deposit Insurance Corporation (2012) 'Regulatory Capital Rules', *Federal Register*, 77(169), pp. 52792–52886.
- Desmedt, L. and Llorca, M. (2014) *L' Euro, le Bourbon et le Banquier Central, LEDI*. Available at: <https://hal-univ-bourgogne.archives-ouvertes.fr/hal-01430375>.

- Van Dijk, T. A. (1993) 'Principles of Critical Discourse Analysis', *Discourse & Society*, 4(2), pp. 249–283.
- Van Dijk, T. A. (2011) 'Critical Discourse Analysis', in Schiffrin, D., Tannen, D., and Hamilton, H. E. (eds) *The handbook of discourse analysis*. Blackwell Publishing Ltd, pp. 349–371.
- Dillard, D. (1980) 'A Monetary Theory of Production: Keynes and the Institutionalists', *Journal of Economic Issues*, 14(2), pp. 1986–255.
- Dillard, D. (1987) 'Money as an Institution of Capitalism', *Journal of Economic Issues*, 21(4), pp. 1623–1647.
- Dodd, N. (1994) *The sociology of money*. Continuum.
- Dodd, N. (2005a) 'Laundering "money": on the need for conceptual clarity within the sociology of money', *Archives Européennes de Sociology*, 46(3), pp. 387–411.
- Dodd, N. (2005b) 'Reinventing monies in Europe', *Economy and Society*, 34(4), pp. 558–583.
- Dodd, N. (2007) 'On Simmel's Pure Concept of Money: A Response to Ingham', *Archives Européennes de Sociology*, 48(2), pp. 273–294.
- Dodd, N. (2014) *The Social Life of Money*. Princeton University Press.
- DODS (2017) *MP Poll for Positive Money*. Available at: <http://positivemoney.org/2017/10/mp-poll/> (Accessed: 28 December 2017).
- Douthwaite, R. (1999) *The Ecology of Money*. Green Books.
- Dubois, H. (2014) *Faszination WIR Eine Wirtschaftsbewegung mit Zukunft*. Faro Verlag.
- Dunn, S. (2016) *Non-financial reporting – introducing new EU requirements*, *Institute of Chartered Accountants of England and Wales*. Available at: <https://ion.icaew.com/talkaccountancy/b/weblog/posts/nonfinancialreportingintroducingneweurequirements> (Accessed: 3 March 2018).
- DWP (2015) *Statement on Timebanking from the Department of Work and Pensions*. Available at: <http://www.pressat.co.uk/media/uploads/60e275d43c6913e49bf74081dbfe38d7.pdf>.
- Edwards, D., Ashmore, M. and Potter, J. (1995) 'Death and Furniture: the rhetoric, politics and theology of bottom line arguments against relativism', *History of the Human Sciences*, 8(2), pp. 25–49.
- Eisenstein, C. (2007) *The Ascent of Humanity*. Panthea Press.

Elwell, C. K. (2011) *Brief History of the Gold Standard in the United States*, Congressional Research Office Report. Available at: <http://gold-standard.procon.org/sourcefiles/crs-brief-history-of-gold-standard-in-us.pdf>.

Encyclopædia Britannica (no date) *fallacy*. Available at: <https://www.britannica.com/topic/fallacy> (Accessed: 21 October 2017).

Engeström, Y. (1999a) 'Activity theory and individual and social transformatoin', in Engeström, Y., Miettinen, R., and Punamäki, R.-L. (eds) *Perspectives on activity theory*, pp. 19–38.

Engeström, Y. (1999b) 'Introduction', in Engeström, Y., Miettinen, R., and Punamäki, R.-L. (eds) *Perspectives on activity theory*. Cambridge University Press, pp. 1–16.

Engeström, Y. (2001) 'Expansive Learning at Work: toward an activity theoretical reconceptualization', *Journal of Education and Work*, 14(1), pp. 133–156.

Engeström, Y. (2003) 'Development studies of work as a testbench of activity theory', in Chaiklin, S. and Lave, J. (eds) *Understanding practice : perspectives on activity and context (1993)*. Cambridge University Press, pp. 64–103.

Engeström, Y., Engeström, R. and Kerosuo, H. (2003) 'The Discursive Construction of Collaborative Care', *Applied Linguistics*, 24(3), pp. 286–316.

Engeström, Y. and Escalante, V. (1995) 'Mundane Tool or Object of Affection? The Rise and Fall of the Postal Buddy', in Nardi, B. A. (ed.) *Context and Consciousness - Activity Theory and Human-Computer Interaction*. Cambridge, Massachusetts: MIT Press, pp. 325–373.

Engstrand, I. (2013) 'Wells Fargo: California's Pioneer Bank', *The Journal of San Diego History*, 59(1), pp. 23–40.

European Central Bank (1999) *Report On The Legal Protection Of Banknotes In The European Union Member States*. European Central Bank. Available at: <https://www.ecb.europa.eu/pub/pdf/other/bnlegalen.pdf?6c22ba164c851688539ef68c8195a0a2> (Accessed: 2 March 2018).

European Central Bank (2012) *Virtual Currency Schemes*.

European Central Bank (2015) *Virtual currency schemes – a further analysis*.

European Central Bank (2018) *What is bitcoin?* Available at: <https://www.ecb.europa.eu/explainers/tell-me/html/what-is-bitcoin.en.html> (Accessed: 9 March 2018).

European Commission: CORDIS (2014) *Digipay4Growth*. Available at: https://www.cordis.europa.eu/project/rcn/191828_en.html (Accessed: 12 March 2018).

Evans, M. S. (2009) 'Zelizer's theory of money and the case of local currencies', *Environment and Planning*, 41(5), pp. 1026–1041.

Evans, S. J. (2014) *Cumbria University PhD student is first in world to pay for tuition fees using Bitcoin*, *Daily Mail Online*. Available at: <http://www.dailymail.co.uk/news/article-2629119/Cumbria-University-PhD-student-world-pay-tuition-fees-using-Bitcoin.html> (Accessed: 12 March 2018).

Fairclough, N. (1989) *Language and Power*. Longman.

Fairclough, N. (2004) 'Critical Discourse Analysis in Researching Language in the New Capitalism: Overdetermination, Transdisciplinarity and Textual Analysis', in Harrison, C. and Young, L. (eds) *Systemic linguistics and critical discourse analysis*. Continuum, pp. 103–122.

Fairclough, N. (2010) *Critical Discourse Analysis: The Critical Study of Language*. 2nd edn. Longman.

Fairclough, N., Jessop, B. and Sayer, A. (2010) 'Critical Realism and semiosis', in Fairclough, N. (ed.) *Critical Discourse Analysis: The Critical Study of Language*. 2nd edn. Harlow: Pearson, pp. 202–222.

Fantacci, L. (2005) 'Complementary currencies: a prospect on money from a retrospect on premodern practices', *Financial History Review*, 12(1), pp. 43–61.

Fare, M., de Freitas, C. and Meyer, C. (2015) 'Territorial development and Community currencies: symbolic meanings in Brazilian Community development banks', *International Journal of Community Currency Research*, 19, pp. 6–17.

FBI (2011) *Defendant Convicted of Minting His Own Currency*, *Federal Bureau of Investigation*. Available at: <https://archives.fbi.gov/archives/charlotte/press-releases/2011/defendant-convicted-of-minting-his-own-currency> (Accessed: 4 August 2017).

FDIC (2018) *Understanding Deposit Insurance*. Available at: <https://www.fdic.gov/deposit/deposits/> (Accessed: 13 March 2018).

Federal Reserve (2014) *The Fedwire Funds Service - Assessment of Compliance with the Core Principles for Systemically Important Payment Systems*. Available at: https://www.federalreserve.gov/paymentsystems/files/fedfunds_coreprinciples.pdf (Accessed: 28 July 2017).

Federal Reserves System (2011) *What is lawful money? How is it different from legal tender?* Available at: https://www.federalreserve.gov/faqs/money_15197.htm (Accessed: 13 March 2018).

Ferguson, N. (2008) *The ascent of money: a financial history of the world*. Penguin.

Financial Conduct Authority (2011) *The FCA's role under the Electronic Money Regulations 2011: Our approach*. Available at: <https://www.fca.org.uk/publication/archive/emonney-approach.pdf>.

Financial Conduct Authority (2018) *About Us*. Available at: <https://www.fca.org.uk/about> (Accessed: 12 March 2018).

FINCEN (2013) *Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies*. Available at: <https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf> (Accessed: 30 July 2017).

FINCEN (2014) *Subject: Request for Administrative Ruling on the Application of FinCEN's Regulations to a Virtual Currency Payment System, Administrative Rulings*. Available at: <https://www.fincen.gov/sites/default/files/shared/FIN-2014-R012.pdf> (Accessed: 30 July 2017).

Finegan, E. (2012) 'Discourses in the language of the law', in Gee, J. P. and Handford, M. (eds) *The Routledge Handbook of Discourse Analysis*. Routledge, pp. 482–494.

Finextra (2017a) *Bank of Amazon? US regulator calls for rethink on separation of banking and commerce, 08. November*. Available at: <https://www.finextra.com/newsarticle/31313/bank-of-amazon-us-regulator-calls-for-rethink-on-separation-of-banking-and-commerce> (Accessed: 14 November 2017).

Finextra (2017b) *Judge dismisses New York regulator's fintech charter lawsuit, 15. December*. Available at: <https://www.finextra.com/newsarticle/31466/judge-dismisses-new-york-regulators-fintech-charter-lawsuit> (Accessed: 18 December 2017).

Finextra (2017c) *State regulators sue OCC over fintech charter plans, 26. April*. Available at: <https://www.finextra.com/newsarticle/30487/state-regulators-sue-occ-over-fintech-charter-plans> (Accessed: 3 March 2018).

Fish, T. and Whymark, R. (2015) 'How has cash usage evolved in recent decades? What might drive demand in the future?', *Bank of England Quarterly Bulletin*, 55(3), pp. 1–12.

- Fisher, P. (2013) 'Speech: Current issues in monetary policy'. Bank of England.
- Foot, K. A. (2014) 'Cultural-Historical Activity Theory: Exploring a Theory to Inform Practice and Research', *Journal of Human Behavior in the Social Environment*, 24(3), pp. 329–347.
- Fox, D. (2011) 'The Case of Mixt Monies: Confirming Nominalism in the Common Law of Monetary Obligations', *The Cambridge Law Journal*, 70(1), pp. 144–174.
- Frantz, C. *et al.* (2013) 'nADICO: A nested grammar of institutions', in Boella, G. *et al.* (eds) *PRIMA 2013: Principles and Practice of Multi-Agent Systems*. Springer, pp. 429–436.
- Freire, M. V. (2009) 'Social economy and central banks: Legal and regulatory issues on social currencies (social money) as a public policy instrument consistent with monetary policy', *International Journal of Community Currency Research*, 13, pp. 76–94.
- Fung, B. (2014) *Forget the 1 percent. In the Bitcoin world, half the wealth belongs to the 0.1 percent.*, *Washington Post*. Available at: <https://www.washingtonpost.com/news/the-switch/wp/2014/03/03/forget-the-1-percent-in-the-bitcoin-world-half-the-wealth-belongs-to-the-0-1-percent/> (Accessed: 7 January 2018).
- Galbraith, J. K. (1975) *Money, whence it came, where it went*. Houghton Mifflin.
- Ganssmann, H. (2013) *Doing money: elementary monetary theory from a sociological standpoint*. Routledge.
- Gelleri, C. (2009) 'Chiemgauer Regiomoney: Theory and Practice of a Local Currency', *International Journal of Community Currency Research*, 13, pp. 61–75.
- Gergen, K. J. (2009) *An invitation to social construction*. Sage Publications.
- Ghorbani, A. and Bravo, G. (2016) 'Managing the commons: A simple model of the emergence of institutions through collective action', *International Journal of the Commons*, 10(1), pp. 200–219.
- Giacalone, R. A. and Promislo, M. D. (2013) 'Broken when entering: The stigmatization of goodness and business ethics education', *Academy of Management Learning and Education*, 12(1), pp. 86–101.
- Gillette, C. P., Scott, R. E. and Schwartz, A. (2007) *Payment Systems and Credit Instruments*. Foundation Press.

- Godschalk, H. (1986) *Die geldlose Wirtschaft : vom Tempeltausch bis zum Barter-Club*. Basis Verlag.
- Goerner, S. J., Lietaer, B. and Ulanowicz, R. E. (2009) 'Quantifying economic sustainability: Implications for free-enterprise theory, policy and practice', *Ecological Economics*, 69(1), pp. 76–81.
- Goffman, E. (1986) *Frame Analysis - An Essay on the Organization of Experience* (1974). Northeastern University Press.
- Gómez, G. (2012) 'Sustainability of the Argentine Complementary Currency Systems', *International Journal of Community Currency Research*, 16, pp. 80–89.
- Gómez, G. M. (2015) 'Introduction: Money and Development', *International Journal of Community Currency Research*, 19, pp. 1–5.
- Gómez, G. M. and Dini, P. (2016) 'Making sense of a crank case: monetary diversity in Argentina (1999–2003)', *Cambridge Journal of Economics*, 40(5), pp. 1421–1437.
- Goodhart, C. A. E. (1970) 'The importance of money', *Bank of England Quarterly Bulletin*, pp. 159–198.
- Google (2017) *Google's Year in Search*, *trends.google.com*. Available at: <https://g.co/trends/urR6X> (Accessed: 14 December 2017).
- Google Play (2016) *Brixton Pound – Android App*. Available at: https://play.google.com/store/apps/details?id=com.pocketintelligence.brixtonpound&hl=en_GB (Accessed: 12 March 2018).
- Google Play (2017) *Io pago Sardex – Android App*. Available at: https://play.google.com/store/apps/details?id=net.sardex.iopagosardex&hl=en_GB (Accessed: 12 March 2018).
- Government Accountability Office (2016) *Complex and Fragmented Structure Could Be Streamlined to Improve Effectiveness*. Available at: <https://www.gao.gov/products/GAO-16-175>.
- Graeber, D. (2011) *Debt - The first 5000 years*. Melville House.
- Graeber, D. (2014) *The truth is out: money is just an IOU, and the banks are rolling in it* | David Graeber, *The Guardian*. Available at: <http://www.theguardian.com/commentisfree/2014/mar/18/truth-money-iou-bank-of-england-austerity> (Accessed: 21 October 2017).
- Graupe, S. (2017a) *Beeinflussung und Manipulation in der ökonomischen Bildung - Hintergründe und Beispiele*. Available at: <http://www.fgw->

nrr.de/fileadmin/user_upload/NOED-Studie-05-Graupe-A1-komplett-Web.pdf (Accessed: 19 October 2017).

Graupe, S. (2017b) 'Geld als Denkwang? Auswege aus dem Gefängnis der Ökonomie', in Brodbeck, K.-H. and Graupe, S. (eds) *Geld! Welches Geld? - Geld als Denkform*. Metropolis-Verlag, pp. 121–152.

De Grave, A. (2013) *Can debt catalyse the next global rebellion?*, *Ouishare Magazine*. Available at: <http://magazine.ouishare.net/2013/10/graeber-morality-debt/> (Accessed: 11 March 2018).

Gray, S. T. (2006) *Central Banking in Low Income Countries*, *Center for Central Bank Studies Handbook*. 5. Bank of England.

Greco, T. (2013) 'Taking Moneyless Exchange To Scale : Measuring and Maintaining the Health of', *International Journal of Community Currency Research*, 17, pp. 19–25.

Greco, T. H. (1990) *Money and debt : a solution to the global crisis*. Knowledge Systems.

Greco, T. H. (2009) *The End of Money and the Future of Civilization*. Edinburgh: Floris.

Greco, T. H. (2015) 'Sardex, a brief report by Thomas H. Greco, Jr. August 15, 2015', pp. 2–5.

Greene, K. (2013) *United States District Court United States District Court, Law 360*. Available at: <https://www.law360.com/articles/462977/bitcoins-are-currency-subject-to-securities-laws-judge-says> (Accessed: 29 July 2017).

Greenham, T., McCann, D. and Ryan-Collins, J. (2014) *Financial system impact of disruptive innovation*. New Economics Foundation.

Greenham, T. and Prieg, L. (2015) *Reforming RBS - Local banking for the common good*. New Economics Foundation.

Gregory, L. (2009) 'Spending Time Locally: The Benefit of Time Banks for Local Economies', *Local Economy*, 24(4), pp. 323–333.

Grierson, P. (1978) 'The Origins of Money', *Research in Economic Anthropology*, 1, pp. 1–35.

Guthrie, G. and Wright, J. (2000) 'Open mouth operations', *Journal of Monetary Economics*, 46, pp. 489–516.

De Haan, J. and Jansen, D.-J. (2009) *The communication policy of the European Central Bank: An overview of the first decade*, *De Nederlandsche Bank Working Papers*. Available at: https://www.dnb.nl/binaries/Working_paper_212_tcm46-219455.pdf (Accessed: 29 August 2017).

- Hagan, S. and Mayeda, A. (2018) 'IMF Calls for Global Talks on Cryptocurrencies', *Bloomberg*, 18 January.
- Haldane, A. G. (2015) 'Speech: How low can you go?' Bank of England.
- Hall, P. and Taylor, R. (1996) 'Political Science and the Three New Institutionalisms', *Political Studies*, XLIV(June), pp. 936–957.
- Hall, S. (2001) 'Foucault: Power, knowledge and discourse', in Wetherell, M., Taylor, S., and Yates, S. J. (eds) *Discourse theory and practice: a reader*. Sage, pp. 72–81.
- Hallsmith, G. and Lietaer, B. (2011) *Creating wealth : growing local economies with local currencies*. New Society Publishers.
- Hamilton, D. (1962) 'Why Is Institutional Economics Not Institutional?', *The American Journal of Economics and Sociology*, 21(3), pp. 309–317.
- Harré, R. and Tisaw, M. A. (2005) *Wittgenstein and psychology : a practical guide*. Ashgate Publishing Company.
- Harrington, K. (2017) 'What Is Money? Legal Language as Modern Day Alchemy', in Mooney, A. and Sifaki, E. (eds) *The language of money and debt a multidisciplinary approach*, pp. 283–309.
- Hart, K. (1986) 'Heads or Tails ? Two Sides of the Coin', *Man (New Series)*, 21(4), pp. 637–56.
- Hart, K. (2001) *Money in an unequal world*. Textere.
- Hashim, N. and Jones, M. (2007) 'Activity Theory: A framework for qualitative analysis', in *4th International Qualitative Research Convention (QRC.0)*.
- Haubrich, J. G. and Santos, J. A. C. (2003) 'Alternative Forms of Mixing Banking with Commerce : Evidence from American History', *Financial Markets, Institutions and Instruments*, (12), pp. 121–164.
- Hayek, F. A. (1985) 'The future monetary unit of value', in Siegel, B. and Yeager, L. (eds) *Money in Crisis: Federal Reserve, the Economy, and Monetary Reform*. Ballinger Publishing Company, pp. 323–337.
- Hayek, F. A. (1990) *Denationalisation of Money - The Argument Refined (1976)*. Institute of Economic Affairs.
- Hern, A. (2017) *Bitcoin mining consumes more electricity a year than Ireland*, *The Guardian*. Available at: <https://www.theguardian.com/technology/2017/nov/27/bitcoin-mining-consumes-electricity-ireland> (Accessed: 9 March 2018).

- Hern, A. (2018) *Bitcoin and cryptocurrencies – what digital money really means for our future*, *The Guardian*. Available at: <http://www.theguardian.com/technology/2018/jan/29/cryptocurrencies-bitcoin-blockchain-what-they-really-mean-for-our-future> (Accessed: 12 February 2018).
- Hertig, A. (2017) *Bitcoin Cash: Who Supports the Fork And Who Doesn't*, *Coindesk.com*. Available at: <https://www.coindesk.com/bitcoin-cash-supports-fork-doesnt/> (Accessed: 12 March 2018).
- Higgins, S. (2017) *Investor Doug Casey: Bitcoin May Be Money, But It Still Might Fail*, *coindesk.com*. Available at: <https://www.coindesk.com/investor-doug-casey-bitcoin-may-money-still-might-fail/> (Accessed: 14 December 2017).
- Hirsch Hadorn, G. et al. (eds) (2008) *Handbook of Transdisciplinary Research*. Springer.
- Hodgson, G. M. (2000) 'What is the Essence of Institutional Economics', *Journal of Economic Issues*, 34(2), pp. 317–329.
- Hodgson, G. M. (2006) 'What are institutions?', *Journal of Economic Issues*, 40(1), pp. 1–25.
- Hollingsworth, J. R. (2011) 'Doing institutional analysis : implications for the study of innovations', *Review of International Political Economy*, 7(4), pp. 595–644.
- Holmes, D. R. (2013) *Economy of words : communicative imperatives in central banks*. University of Chicago Press.
- Holmes, D. R. (2014) 'Communicative Imperatives in Central Banks', *Cornell International Law Journal*, 47(15), pp. 15–61.
- Holmes, O. (2017) *World Bank economist sidelined after demanding shorter emails and reports*, *The Guardian*. Available at: <https://www.theguardian.com/business/2017/may/26/world-bank-economist-sidelined-after-demanding-shorter-emails-and-reports> (Accessed: 12 March 2018).
- Van Hombreeck, C. E. (2017) *An exorbitant privilege in the first age of international financial integration*, *Staff Working Paper*. 668. Bank of England.
- Huber, J. (2014) *Modern Money and Sovereign Currency*. Available at: <https://static1.squarespace.com/static/51ab60bee4b0361e5f3ed7fb/t/51ee76bfe4b0cc8c8b66ed72/1374582463955/MMT+and+NCT.pdf> (Accessed: 26 July 2017).

- Huber, J. (2016) *Sovereign Money: Beyond Reserve Banking*. Palgrave Macmillan.
- Huber, J. (2017) *Wie rechtmäßig ist Giralgeld? und wie berechtigt Schuldenstreik?* Vollgeld.de. Available at: <https://www.vollgeld.de/wie-rechtmässig-ist-giralgeld-u-schuldenstreik> (Accessed: 15 September 2017).
- Hughes, N. (2015) 'The Community Currency Scene in Spain', *International Journal of Community Currency Research*, 19, pp. 1–11.
- Ingham, G. (1996) 'Money is a Social Relation', *Review of Social Economy*, 54(4), pp. 507–529.
- Ingham, G. (2004) 'The nature of money', *Economic Sociology: European Electronic Newsletter*, 5(2), pp. 18–28.
- Ingham, G. (2006) 'Further reflections on the ontology of money: responses to Lapavistas and Dodd', *Economy and Society*, 35(2), pp. 259–278.
- Ingham, G., Coutts, K. and Konzelmann, S. (2016) 'Introduction: "cranks" and "brave heretics": Rethinking money and banking after the great financial crisis', *Cambridge Journal of Economics*, 40(5), pp. 1247–1257.
- Internal Revenue Service (2014) *Virtual Currency Guidance*, *Internal Revenue Bulletin*. Available at: https://www.irs.gov/irb/2014-16_IRB/ar12.html (Accessed: 30 July 2017).
- International Movement for Monetary Reform (2018) *Homepage*. Available at: <http://internationalmoneyreform.org/> (Accessed: 18 February 2018).
- Investopedia *Bank Deposits*, *Investopedia*. Available at: <http://www.investopedia.com/terms/b/bank-deposits.asp> (Accessed: 21 October 2017).
- Investopedia (no date) *Nonbank Banks*. Available at: <https://www.investopedia.com/terms/n/nonbank-banks.asp> (Accessed: 12 March 2018).
- IRS (1996) *Private Letter Ruling*. Available at: <http://actionhub.timebanks.org/public-file/irs-private-letter-ruling-time-dollars>.
- IRTA (2016) *Cryptocurrency Money Transmitter Advisory Memo*. Available at: <https://www.irta.com/library/irta-advisory-memos/cryptocurrency-money-transmitter-advisory-memo/> (Accessed: 12 March 2018).
- IRTA (no date a) *Advocacy*. Available at: <https://www.irta.com/about/advocacy/> (Accessed: 12 March 2018).
- IRTA (no date b) *Cryptocurrency Money Transmitter Advisory Memo*, *International Reciprocal Trade Association*. Available at:

<https://www.irta.com/library/irta-advisory-memos/cryptocurrency-money-transmitter-advisory-memo/> (Accessed: 4 August 2017).

IRTA (no date c) *IRS Reporting Requirements, International Reciprocal Trade Association*. Available at: <https://www.irta.com/about/irs-reporting-requirements/> (Accessed: 4 August 2017).

IRTA (no date d) *IRTA Fact Sheet*. Available at: <https://www.irta.com/about/irta-fact-sheet/> (Accessed: 12 March 2018).

IRTA (no date e) *Sardex*. Available at: <https://www.irta.com/members/business/sardex/> (Accessed: 12 March 2018).

Issing, O. (2005) 'Communication, Transparency, Accountability: Monetary Policy in the Twenty-First Century', *Federal Reserve Bank of St. Louis Review*, 87(2), pp. 65–83.

Jahn, T., Bergmann, M. and Keil, F. (2012) 'Transdisciplinarity: Between mainstreaming and marginalization', *Ecological Economics*. Elsevier B.V., 79, pp. 1–10.

Jakab, Z. and Kumhof, M. (2015) *Banks are not intermediaries of loanable funds - and why this matters, Bank of England Working Paper*. 529.

Jawaheri, H. et al. (2018) 'When A Small Leak Sinks A Great Ship: Deanonymizing Tor Hidden Service Users Through Bitcoin Transactions Analysis', *arxiv: 1801.07501v1 [Cryptography and Security]*.

Jesson, J., Matheson, L. and Lacey, F. M. (2011) *Doing Your Literature Review*. Sage Publications.

jnewbery (no date) *Bitcoin Core Integration/Staging Tree*, *github.com*. Available at: <https://github.com/bitcoin/bitcoin/blob/master/README.md> (Accessed: 12 March 2018).

Jones, S. D. A. (2011) 'A theoretical framework for shared monetary governance', *International Journal of Community Currency Research*, 15, pp. 23–30.

Kalinowski, W. et al. (2017) *Ending Austerity without Leaving the Euro: How Complementary Fiscal Currencies Could Help*, *veblen-institute.org*. Available at: <http://www.veblen-institute.org/Ending-Austerity-without-Leaving-the-Euro-How-Complementary-Fiscal-Currencies.html> (Accessed: 1 February 2018).

Karl, A. G. (2013) 'Bank Talk, Performativity and Financial Markets', *Journal of Cultural Economy*, 6(1), pp. 63–77.

- Karlstrøm, H. (2014) 'Do libertarians dream of electric coins? The material embeddedness of Bitcoin', *Distinktion: Journal of Social Theory*, 15(1), pp. 23–36.
- Kennedy, M. (2012) *Occupy money : creating an economy where everybody wins*. Ingram.
- Kennedy, M. and Lietaer, B. (2004) *Regionalwährungen: neue Wege zu nachhaltigem Wohlstand*. Riemann.
- Kennedy, M., Lietaer, B. and Rogers, J. (2012) *People Money: The Promise of Regional Currencies*. Triarchy Press.
- Keynes, J. M. (1976) *A treatise on money (1930)*. AMS Press.
- Keynes, J. M. (2003) *The General Theory of Employment, Interest, and Money (1935)*. University of Adelaide Library Electronic Texts Collection.
- Kharif, O. (2017) *1,000 People Own 40% of the Bitcoin Market*, *Bloomberg*. Available at: <https://www.bloomberg.com/news/articles/2017-12-08/the-bitcoin-whales-1-000-people-who-own-40-percent-of-the-market> (Accessed: 7 January 2018).
- King, M. (2002) 'No money, no inflation—the role of money in the economy', *Bank of England Quarterly Bulletin*, 42(2), pp. 162–177.
- King, M. (2006) 'Speech: Trusting in Money: From Kirkcaldy to the MPC'. Bank of England.
- Kocherlakota, N. R. (1998) *The Technological Role of Fiat Money*, *Federal Reserve Bank of Minneapolis Quarterly Review*. Available at: <https://www.minneapolisfed.org/research/qr/qr2231.pdf> (Accessed: 14 August 2017).
- KPMG (2016) *Money Issuance: Alternative Monetary Systems*. Available at: <https://assets.kpmg.com/content/dam/kpmg/is/pdf/2016/09/KPMG-MoneyIssuance-2016.pdf>.
- Kress, G. (2001) 'From Saussure to Critical Sociolinguistics: The Turn Towards a Social View of Language', in Wetherell, M., Taylor, S., and Yates, S. J. (eds) *Discourse Theory and Practice: A Reader*. Sage Publications Ltd, pp. 29–39.
- Krohn, G. A. and Snyder, A. M. (2008) 'An Economic Analysis of Contemporary Local Currencies in the United States', *International Journal of Community Currency Research*, 12, pp. 53–68.
- Kuhn, T. (1962) *The Structure of Scientific Revolutions*. University of Chicago Press.

- De La Rosa, J. L. and Stodder, J. (2015) 'On Velocity in Several Complementary Currencies', *International Journal of Community Currency Research*, 19, pp. 114–127.
- Lanchester, J. (2015) *How to speak money*. Faber & Faber.
- Lanchester, J. (2016) 'When Bitcoin grows up', *The London review of books*, 38(8), pp. 3–12.
- Langholm, O. (1998) 'The Medieval Schoolmen (1200-1400)', in Lowry, S. T. and Gordon, B. (eds) *Ancient and Medieval Economic Ideas and Concepts of Social Justice*. Brill, pp. 439–503.
- Lapavistas, C. (2005) 'The social relations of money as universal equivalent: a response to Ingham', *Economy and Society*, 34(3), pp. 389–403.
- Lautenschläger, S. (2017) *Is small beautiful? Supervision, regulation and the size of banks*, *European Central Bank*. Available at: <https://www.ecb.europa.eu/press/key/date/2017/html/ecb.sp171014.en.html> (Accessed: 4 March 2018).
- Law, J. (2000) *Objects, Spaces and Others*, *Centre for Science Studies - Lancaster University*. Available at: <http://www.comp.lancs.ac.uk/sociology/papers/> (Accessed: 17 January 2018).
- Legal Dictionary (no date) *common law*. Available at: <https://legal-dictionary.thefreedictionary.com/common+law> (Accessed: 3 January 2018).
- Lemos, M. *et al.* (2013) 'The Historical-Cultural Activity Theory and its contributions to Education, Health and Communication: Interview with Yrjö Engeström', *Interface*, 17(46), pp. 715–27.
- Lietaer, B. (2000) *The Mystery of Money - Beyond Greed and Scarcity*. Riemann.
- Lietaer, B. (2002) *The Future Of Money: Creating New Wealth, Work and a Wiser World*. Century.
- Lietaer, B. (2004) 'Complementary currencies in Japan today: History, originality and relevance', *International Journal of Community Currency Research*, 8, pp. 1–23.
- Lietaer, B. (2006) 'A Proposal for a Brazilian Education Complementary Currency', *International Journal of Community Currency Research*, 10, pp. 18–23.
- Lietaer, B. A. *et al.* (2012) *Money and sustainability: the missing link*. Triarchy Press.

- Littera, G. et al. (2017) 'From an Idea to a Scalable Working Model: Merging Economic Benefits with Social Values in Sardex', *International Journal of Community Currency Research*, 21, pp. 1–16.
- Loomis, N. M. (1968) *Wells Fargo*. C.N.Potter.
- Magnien, F. (2013) *Le guide des échanges interentreprises de biens et services*, PIPAME. Available at: <https://www.francebarter.coop/GUIDE-PRATIQUE-BARTER-echanges-inter-entreprises.pdf>.
- Manning, S. (2014) 'The Bank of England as a bank', *Bank of England Quarterly Bulletin*, 54(2), pp. 129–136.
- Martignoni, J. (2011) *Typologie von Komplementärwährungen und Erfolgsfaktoren von Komplementärwährungsorganisationen*. Universtiy of Fribourg.
- Martignoni, J. (2012) 'A new approach to the typology of complimentary currencies', *International Journal of Community Currency Research*, 16, pp. 1–17.
- Martignoni, J. (2015) 'Cooperation and Intertrade Between Community Currencies: From Fundamentals To Rule-Making and Clearing Systems, Including a Case Study of the Zurich Area, Switzerland', *International Journal of Community Currency Research*, 19, pp. 137–151.
- Martignoni, J. (2017) *Das Geld neu erfinden: Alternative Währungen verstehen und nutzen*. Versus.
- Martin, F. (2014) *Money: the Unauthorised Biography*. Vintage.
- Mascornick, J. (2007) 'Local Currency Loans and Grants: Comparative Case Studies of Ithaca HOURS and Calgary Dollars', *International Journal of Community Currency Research*, 11, pp. 1–22.
- Mason, P. (2016) *Crime, terrorism and tax evasion: why banks are waging war on cash*, *The Guardian*. Available at: <http://www.theguardian.com/commentisfree/2016/feb/15/crime-terrorism-and-tax-evasion-why-banks-are-waging-war-on-cash> (Accessed: 1 January 2018).
- Matthews, M. and Nickles, S. (2015) *Payments Law in a Nutshell*. 2 edition. West Academic Publishing.
- Mauldin, R. L. (2015) 'Local Currency for Community Development: Policy Barriers and Support', *Journal of Community Practice*, 23, pp. 462–476.
- Maurer, B. (2006) 'The Anthropology of Money', *Annu. Rev. Anthropol*, 35, pp. 15–36.

Maybin, J. (2001) 'Language, Struggle and Voice: The Bakhtin/Volosinov Writings', in Wetherell, M., Taylor, S., and Yates, S. J. (eds) *Discourse Theory and Practice: A Reader*. Sage Publications Ltd, pp. 64–71.

Mazzant, A. L. (2013) *Memorandum Opinion Regarding the Court's Subject Matter Jurisdiction: SEC vs Shave*. Available at: <https://cases.justia.com/federal/district-courts/texas/txedce/4:2013cv00416/146063/23/0.pdf?ts=1376338348> (Accessed: 30 July 2017).

McGregor, S. L. T. (2003) 'Critical Discourse Analysis - A Primer', *Kappa Omicron Nu Forum*, 15(1), pp. 1–13.

McKay, A. and Lewis, M. (2015) *The Big Short [Movie]*.

McKinsey & Company (2015) *Global Payments 2015 : A Healthy Industry Confronts Disruption*. Available at: <https://www.mckinsey.com/industries/financial-services/our-insights/global-payments-2015-a-healthy-industry-confronts-disruption>.

McLeay, M., Radia, A. and Thomas, R. (2014a) 'Money Creation in the Modern Economy', *Bank of England Quarterly Bulletin*, 54(1), pp. 14–27.

McLeay, M., Radia, A. and Thomas, R. (2014b) 'Money in the Modern Economy: An Introduction', *Bank of England Quarterly Bulletin*, 54(1), pp. 4–13.

Meier, F. (2017) *Money as accounting: historical and theoretical issues*. University of Fribourg.

Melendez, E. D. (2012) *In Visit To Gold Vault, Queen Questions Bank Of England Officials On Financial Crisis*, *International Business Times*. Available at: <http://www.ibtimes.com/visit-gold-vault-queen-questions-bank-england-officials-financial-crisis-938497> (Accessed: 12 March 2018).

Menger, C. (2009) *The origins of money (1892)*. Ludwig von Mises Institute.

Merriam-Webster Dictionary (2018) *The Dictionary Just Got a Whole Lot Bigger, Words at play*. Available at: <https://www.merriam-webster.com/words-at-play/new-words-in-the-dictionary-march-2018> (Accessed: 8 March 2018).

Metacurrency Project (no date). Available at: <http://metacurrency.org/team/> (Accessed: 11 March 2018).

Michel, A. and Hudon, M. (2015) 'Community currencies and sustainable development: A systematic review', *Ecological Economics*, 116(April 2015), pp. 160–171.

- Miettinen, R. and Virkkunen, J. (2005) 'Epistemic Objects, Artefacts and Organizational Change', *The Interdisciplinary Journal of Organization, Theory and Society*, 12(3), pp. 437–456.
- Minsky, H. P. (1986) *Stabilizing an unstable economy*. McCraw-Hill.
- Mitchell-Innes, A. (1913) 'What Is Money?', *The Banking Law Journal*, 32, pp. 377–408.
- Mooney, A. and Sifaki, E. (2017) 'The View from the Ground', in Mooney, A. and Sifaki, E. (eds) *The language of money and debt - a multidisciplinary approach*. Palgrave Macmillan, pp. 1–30.
- Moretti, F. and Pestre, D. (2015) 'Bankspeak: The Language of World Bank Reports', *New Left Review*, 92(2), pp. 75–99.
- Morrish, L. (2017) 'Neoliberalism in the Academy: Have You Drunk the Kool-Aid?', in Mooney, A. and Sifaki, E. (eds) *The Language of Money and Debt - A Multidisciplinary Approach*. Palgrave Macmillan, pp. 137–161.
- Mundell, R. (2005) 'The case for a world currency', *Journal of Policy Modeling*, 27(4), pp. 465–475.
- Mutual Aid Networks (2018) *Pilot Sites Overview*. Available at: <http://www.mutualaidnetwork.org/pilot-sites/> (Accessed: 12 March 2018).
- Nakamoto, S. (2008) *Bitcoin: A Peer-to-Peer Electronic Cash System*. Available at: <https://bitcoin.org/en/bitcoin-paper>.
- Naqvi, M. and Southgate, J. (2013) 'Banknotes , local currencies and central bank objectives', *Bank of England Quarterly Bulletin*, 53(4), pp. 317–325.
- Nenovsky, N. (2009) *On Money as an Institution*, *ICER Working Paper*. 12.
- New Economy Organiser Network et al. (2018) *Framing the Economy*. Available at: <http://publicinterest.org.uk/framing-the-economy/> (Accessed: 24 February 2018).
- Nicolini, D. (2012) *Practice theory, work, and organization*. Oxford University Press.
- Niel Kondor, D. et al. (2014) 'Do the Rich Get Richer? An Empirical Analysis of the Bitcoin Transaction Network', *PLoS ONE*, 9(2), p. e86197.
- North, D. C. (1990) 'Institutions, Institutional Change, and Economic Performance', *Cambridge University Press*, p. 1990.
- North, M. (1994) *Das Geld und seine Geschichte: vom Mittelalter bis zur Gegenwart*. C.H. Beck.

- North, P. (2004) 'Kaláka and Kör: Green money and mutual aid in Hungary', *International Journal of Community Currency Research*, 8, pp. 24–28.
- North, P. (2005) 'Scaling alternative economic practices? Some lessons from alternative currencies', *Transactions of the Institute of British Geographers*, 30(2), pp. 221–233.
- North, P. (2010) *Local Money*. Green Books.
- North, P. (2016) 'Money reform and the Eurozone crisis: Panacea, utopia or grassroots alternative?', *Cambridge Journal of Economics*, 40(5), pp. 1439–1453.
- Office of the Comptroller of the Currency (2016) *Exploring Special Purpose National Bank Charters for Fintech Companies*. Available at: [https://www.occ.gov/topics/responsible-innovation/comments/special-purpose-national-bank-charters-for-fintech.pdf](https://www OCC.gov/topics/responsible-innovation/comments/special-purpose-national-bank-charters-for-fintech.pdf) (Accessed: 2 August 2017).
- Orléan, A. (1992) 'The Origin of Money', in Varela, F. J. and Dupuy, J.-P. (eds) *Understanding Origins*. Springer, pp. 113–143.
- Orléan, A. and Debevoise, M. B. (2014) *The Empire of Value: A New Foundation for Economics*. MIT Press.
- Orsi, J., Mont, S. and Bindewald, L. (2017) *Report on Fincancial Landscape and Regulatory Environment in the US*. Unpublished.
- Orwell, G. (2013) *Nineteen Eighty-Four*. 01 edition. Penguin Classics.
- Ostrom, E. (1986) 'An agenda for the study of institutions', *Public Choice*, 48(1), pp. 3–25.
- Oxford Dictionary (2017) *Definition of institution*. Available at: <https://en.oxforddictionaries.com/definition/institution> (Accessed: 15 December 2017).
- Papadopoulos, G. (2015a) 'Collective intentionality and the state theory of money', *Erasmus Journal for Philosophy and Economics*, 8(2), pp. 1–20.
- Papadopoulos, G. (2015b) *The Ontology of Money - Institutions, Power and Collective Intentionality*. Erasmus University Rotterdam.
- Pfluger, C. (2015) *Die zehn Fallgruben unseres Geldsystems*. Zeitpunkt.
- Phillips, J. W. (2013) 'On Topology', *Theory, Culture & Society*, 30(5), pp. 122–152..
- Phillips, N., Lawrence, T. B. and Hardy, C. (2004) 'Discourse and institutions', *Academy of management review*, 29(4), pp. 635–652.

- Place, C. and Bindewald, L. (2015) 'Validating and Improving the impact of complementary currency systems through impact assessment frameworks', *International Journal of Community Currency Research*, 19, pp. 152–164.
- Pohl, C. and Hirsch Hadorn, G. (2007) *Principles for designing transdisciplinary research*. Oekom.
- Polanyi, K. (1957) 'The Economy as Instituted Process', in Polanyi, K., Arensberg, C. M., and Pearson, H. W. (eds) *Trade and Market in the Early Empires*. New York: Henry Regnery Company, pp. 243–270.
- Polasik, M. *et al.* (2015) 'Price Fluctuations and the Use of Bitcoin: An Empirical Inquiry', *International Journal of Electronic Commerce*, 20(1), pp. 9–49.
- Popper, N. (2015) *Digital gold : Bitcoin and the inside story of the misfits and millionaires trying to reinvent money*. Harper.
- Positive Money (no date) *How We Got Here*. Available at: <http://positivemoney.org/how-money-works/how-did-we-end-up-here/> (Accessed: 13 March 2018).
- Posnett, E. (2015) *The Sardex factor*, *Financial Times*. Available at: <https://www.ft.com/content/cf875d9a-5be6-11e5-a28b-50226830d644> (Accessed: 9 February 2018).
- Potter, J. (2001) 'Wittgenstein und Austin', in Wetherell, M., Taylor, S., and Yates, S. J. (eds) *Discourse Theory and Practice: A Reader*. Sage Publications Ltd, pp. 39–46.
- Pratchett, T. (2007) *Making money*. Doubleday.
- Prieg, L. and Greenham, T. (2012) *Stakeholder Banks: Benefits of Banking Diversity*. New Economics Foundation.
- Prifits, T. and Slater, M. (2015) *Credit Commons Proposal*.
- Pritchard, J. (2016) *What Does 'Deposit' Mean, Especially When Used in the Financial World?*, *The Balance*. Available at: <https://www.thebalance.com/deposit-definition-315425> (Accessed: 21 October 2017).
- Proctor, C. (2012) 'The concept of money', in Proctor, C. (ed.) *Mann on the Legal Aspect of Money*. 7th edn. Oxford University Press, pp. 5–63.
- Quirk, P. (2010) 'The internationalisation of law : legislating, decision making, practice and education', in Hiscock, Mary E. Caenegem, W. van. (ed.) *The Internationalisation of Law Legislating, Decision-Making, Practice and Education*. Edward Elgar, pp. 169–183.

Qureshi, H. (2017) *Why Bitcoin is not trustless*, *Hackernoon.com*. Available at: <https://hackernoon.com/bitcoin-is-not-trustless-350ba0060fc9> (Accessed: 13 February 2018).

RAMICS (2016) *Research Association on Monetary Innovation and Community and Complementary Currency Systems*. Available at: <https://ramics.org/> (Accessed: 11 March 2018).

Reynolds, M. (2017) *Psychology explains why your friends can't shut up about bitcoin*, *Wired*. Available at: <http://www.wired.co.uk/article/will-bitcoin-bubble-burst-or-crash-2017-psychology-cryptocurrency-economics> (Accessed: 7 January 2018).

Rice, J. S. (2014) 'A counter-hegemonic discourse of economic Difference: A critical discourse analysis of timebanking in the United States', *International Journal of Community Currency Research*, 18, pp. 1–10.

Riegler, A. (2005) 'The Constructivist Challenge', *Constructivist Foundations*, 1(1), pp. 1–8.

Riles, A. (2014) 'Managing Regulatory Arbitrage: A Conflict of Laws Approach', *Cornell International Law Journal*, 47, pp. 63–119.

Robins, N. (2006) *The corporation that changed the world: how the East India Company shaped the modern multinational*. Pluto Press.

Rogers, J. (2011) 'On the money: Getting the message out', *International Journal of Community Currency Research*, 15, pp. 11–16.

Rogers, J. (2017) *Positive Money or Positive Monies? – A plea for monetary diversity*, *MONNETA*. Available at: <http://monneta.org/en/news/positive-money-or-positive-monies-a-plea-for-monetary-diversity/> (Accessed: 8 March 2018).

Ron, D. and Shamir, A. (2013) 'Quantitative analysis of the full bitcoin transaction graph', in Sadeghi, A. R. (ed.) *Financial Cryptography and Data Security*. Springer.

Roosevelt, F. D. (1933) *Requiring Gold Coin, Gold Bullion and Gold Certificates to Be Delivered to the Government*. Available at: <http://www.presidency.ucsb.edu/ws/index.php?pid=14611&st=&st1=> (Accessed: 31 July 2017).

Rorty, R. (1989) *Contingency, Irony, and Solidarity*. Cambridge University Press.

Rösl, G. (2006) *Regional currencies in Germany - local competition for the Euro?*, *Deutsche Bundesbank Discussion Paper*. Available at:

http://library.uniteddiversity.coop/Community_Currencies/regional-currencies-in-germany.pdf.

Ross, E. S. (2017) 'Nobody Puts Blockchain in a Corner: The Disruptive Role of Blockchain Technology in the Financial Services Industry and Current Regulatory Issues', *Catholic University Journal of Law and Technology U. J. L. & Tech*, 25(2), pp. 354–386.

Rossi, S. (2007) *Money and Payments in Theory and Practice*. Routledge.

Roversi, C. (2014) 'Conceptualizing institutions', *Phenomenology and the Cognitive Sciences*, 13(1), pp. 201–215.

Ruddick, W. O. (2011) 'Eco-Pesa: An Evaluation of a Complementary Currency Programme in Kenya's Informal Settlements', *International Journal of Community Currency Research*, 15(A), pp. 1–12.

Ruddick, W. O., Richards, M. A. and Bendell, J. (2015) 'Complmenetary Currencies for Sustainable Development in Kenya: The case of the Bangla-Pesa', *International Journal of Community Currency Research*, 19, pp. 18–30.

Rule, G. (2015) *Understanding the Central Bank Balance Sheet*, *Center for Central Bank Studies Handbook*. 32. Bank of England.

Ryan-collins, J. (2015) *Is Monetary Financing Inflationary? A Case study of the Canadian Economy 1935-1975*, *Levy Institute Working Papers*.

Ryan-Collins, J. (2011) 'Building Local Resilience : The Emergence of the UK Transition Currencies', *International Journal of Community Currency Research*, 15 (D), pp. 61–67.

Ryan-Collins, J. et al. (2011) *Where Does Money Come From?* New Economics Foundation.

Ryan-Collins, J., Schuster, L. and Greenham, T. (2013) *Energising Money: An introduction to energy currencies and accounting*. New Economics Foundation.

Saka, Y., Southerland, S. A. and Brooks, J. S. (2009) 'Becoming a member of a school community while working toward science education reform: Teacher induction from a Cultural Historical Activity Theory (CHAT) perspective', *Science Education*, 93(6), pp. 996–1025.

Sardex (2016) *Codice Etico*. Available at: https://s3-eu-west-1.amazonaws.com/nosu-media/wp-content/uploads/2017/02/14181726/2016_10_25_CM_codice-etico_IT_def1.pdf (Accessed: 9 February 2018).

- Sardex (2017) *Company Overview, Press Kit*. Available at: <https://www.sardex.net/?lang=en>.
- Sardex (2018) *Conto*. Available at: <https://sardex.nosu.co/> (Accessed: 12 March 2018).
- Sardex (no date a) *Accordo tra Sardex e Banca Etica*. Available at: <https://sardex.net/accordo-sardex-banca-etica/> (Accessed: 12 March 2018).
- Sardex (no date b) *Circuito di Credito Commerciale Sardo*. Available at: <https://www.sardex.net/#stat> (Accessed: 12 March 2018).
- Sardex (no date c) *Come funziona*. Available at: <https://www.sardex.net/come-funziona/> (Accessed: 12 March 2018).
- Sardex (no date d) *Eventi*. Available at: <https://www.sardex.net/category/sardegna/sardegna-eventi-circuito/> (Accessed: 12 March 2018).
- Sardex (no date e) *How it works*. Available at: <https://www.sardex.net/come-funziona/?lang=en> (Accessed: 12 March 2018).
- Sardex (no date f) *Il circuito*. Available at: <https://www.sardex.net/il-circuito/> (Accessed: 12 March 2018).
- Sardex (no date g) *Parlano di noi*. Available at: <https://sardex.net/category/sardegna/parlano-di-noi-sardegna/> (Accessed: 12 March 2018).
- Sardex (no date h) *The circuit*. Available at: <https://www.sardex.net/il-circuito/?lang=en> (Accessed: 12 March 2018).
- Sartori, L. and Dini, P. (2016) 'From complementary currency to institution: A micro-macro study of the Sardex mutual credit system', *Stato e Mercato*, (107), pp. 273–305.
- Savin-Baden, M. and Major, C. H. (2013) *Qualitative research : the essential guide to theory and practice*. Routledge.
- Schachter, H. L. (2017) 'Elinor Ostrom: The Power and Peril of Multidisciplinary Research', *Public Administration Review*, 77(6), pp. 955–957.
- Schatzki, T. (2011) *Where the action is (on large social phenomena such as sociotechnical regimes)*, Sustainable Practices Research Group Working Papers. 1.
- Schick, G., Giegold, S. and Philipp, U. (2016) *Die Grüne Agenda für krisenfeste , verbraucher- und investitionsfreundliche Finanzmärkte, European Green Party*. Green Party (EU). Available at: <https://graetzi.discuto.io/en/consultation/11522>.

- Schlegel, H. (2014) *Why reputation is the currency of the future*, CNN. Available at: <http://edition.cnn.com/2014/09/23/opinion/in-trust-reputation-currency> (Accessed: 29 December 2017).
- Schlüter, A. and Theesfeld, I. (2010) 'The grammar of institutions: The challenge of distinguishing between strategies, norms, and rules', *Rationality and Society*, 22(4), pp. 445–475.
- Schmidt, V. A. (2002) *The futures of European capitalism*. Oxford University Press.
- Schmidt, V. A. (2008) 'Discursive Institutionalism: The Explanatory Power of Ideas and Discourse', *Annual Review of Political Science*, 11(1), pp. 303–326.
- Schmidt, V. A. (2010) 'Taking ideas and discourse seriously: explaining change through discursive institutionalism as the fourth 'new institutionalism'', *European Political Science Review*, 2(1), pp. 1–25.
- Schmidt, V. A. (2012) 'Discursive Institutionalism: Scope, Dynamics, and Philosophical Underpinnings', in Fischer, F. and Forester, J. (eds) *The Argumentative Turn Revised: Public Policy as Communicative Practice*. Duke University Press, pp. 85–113.
- Schmidt, V. A. (2014) 'Speaking to the Markets or to the People? A Discursive Institutional Analysis of the EU's Sovereign Debt Crisis', *BJPIR*, 16, pp. 188–209.
- Schmidt, V. A. (2015) 'Discursive Institutionalism: Understanding Policy in Context', in Fischer, F. et al. (eds) *Handbook of critical policy studies*. Edward Elgar, pp. 171–189.
- Schröder, R. F. H. (2015) 'The Financing of Complementary Currencies: Problems and Perspectives', *International Journal of Community Currency Research*, 19, pp. 106–113.
- Schröder, R. F. H. (2017) 'Boundaries as Constitutive Elements of Community Currencies', in *ISIRC 2017*. Melbourne.
- Schröder, R. F. H., Miyazaki, Y. and Fare, M. (2011) 'Community Currency Research: An Analysis of the Literature', *International Journal of Community Currency Research*, 15, pp. 31–41.
- Schroeder, P. (2017) *Banks spent record amounts on lobbying in recent election*, Reuters. Available at: <https://www.reuters.com/article/us-usa-banks-lobbying/banks-spent-record-amounts-on-lobbying-in-recent-election-idUSKBN16F26P> (Accessed: 1 March 2018).
- Schumpeter, J. a. (2006) *History of Economic Analysis (1954)*. Routledge.

Schussman, A. (2005) *Remaking Money: Local Currency and the Meaning of Money in the United States*, Annual Meeting of American Sociological Association.

Schussman, A. T. (2007) *Making real money: Local currency and social economies in the United States*. University of Arizona.

Schwarcz, S. L. (2014) *The Functional Regulation of Finance*, Harvard Law School Forum on Corporate Governance and Financial Regulation.

Scollon, R. and Wong Scollon, S. (2005) 'Lighting the stove Why habitus isn't enough for Critical Discourse Analysis', in Wodak, R. and Chilton, P. (eds) *A New Agenda in (Critical) Discourse Analysis: Theory, Methodology and Interdisciplinarity*. John Benjamin, pp. 101–117.

Scott, B. (2013) *The heretic's guide to global finance : hacking the future of money*. Pluto Press.

Scott, B. (2014) *Crypto-Patriarchy: The problem of Bitcoin's male domination, The Heretic's Guide to Global Finance*. Available at: <http://suitpossum.blogspot.co.uk/2014/01/crypto-patriarchy-problem-of-bitcoins.html> (Accessed: 12 March 2018).

Scott, B. (2016) *How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance?*, UNRISD. Available at: <http://www.unrisd.org/brett-scott>.

Scott Cato, M. (2006) 'Argentina in the Red: What can the UK's regional economies learn from the Argentinian banking Crisis?', *International Journal of Community Currency Research*, 10, pp. 43–55.

Scottish Government (2009) *Supporting business and enterprise: taking forward our national conversation*. Scottish Government. Available at: <http://www.gov.scot/Publications/2009/11/26092510/0> (Accessed: 25 July 2017).

Searle, J. R. (1996) *The construction of social reality*. Penguin.

Searle, J. R. (2005) 'What is an institution?', *Journal of Institutional Economics*. Cambridge University Press, 1(1), pp. 1–22.

Searle, J. R. (2006) 'Social ontology Some basic principles', *Anthropological Theory*, 6(1), pp. 12–29.

Searle, J. R. (2010) *Making the Social World: The Structure of Civilization*. Oxford University Press.

SELC (2014a) *Community Currency Law*. Available at: <http://www.communitycurrencieslaw.org/> (Accessed: 11 March 2018).

- SELC (2014b) *Legal Definitions of Money and Currency in California*, [communitycurrencylaw.org](http://www.communitycurrencylaw.org). Available at: <http://www.communitycurrencieslaw.org/legal-definitions/> (Accessed: 13 August 2017).
- Serra, S. H. (2005) 'Has the Time for Electronic Currency Come? Imagining an E-Currency Future for Money', *International Journal of Community Currency Research*, 9, pp. 21–38.
- Seyfang, G. (2007) *Carbon currencies: A new gold standard for sustainable consumption?* (CSERGE Working Paper EDM 09-07). Available at: <https://www.econstor.eu/bitstream/10419/48817/1/607542373.pdf>.
- Seyfang, G. (2008) 'Editorial', *International Journal of Community Currency Research*, 12, p. 1.
- Seyfang, G. and Longhurst, N. (2010) 'Research Briefing Grassroots Innovation: Complementary Currencies', *International Journal of Community Currency Research*, 14, pp. 1–2.
- Seyfang, G. and Longhurst, N. (2012) *Money, Money, Money? A Scoping Study of Grassroots Complementary Currencies for Sustainability*. (3S Working Paper). Available at: <https://grassrootsinnovations.files.wordpress.com/2012/05/seyfang-and-longhurst-2012-money-money-money.pdf>.
- Seyfang, G. and Longhurst, N. (2013) 'Growing green money? Mapping community currencies for sustainable development', *Ecological Economics*, 86, pp. 65–77.
- Seyfang, G. and Longhurst, N. (2014) *Understanding the Diffusion of Grassroots Innovations for Sustainability: An International Study of Community Currency Niches*, 3S Working Papers. (3S Working Papers).
- Seyfang, G. and Pearson, R. (2000) 'Time for Change : International experience in community currencies', *Society for International Development*, 43(4), pp. 56–60.
- Sgambati, S. (2013) *Money: groundwork for a study of social relations, power and institutional change*. Università degli Studi di Napoli Federico II.
- Sgambati, S. (2017) 'Rethinking banking. Debt discounting and the making of modern money as liquidity', *New Political Economy*, 21(3), pp. 274–290.
- Sheffield, C. (2015) *Dodd-Frank Is Killing Community Banks*, *Forbes*. Available at: <https://www.forbes.com/sites/carriesheffield/2015/02/09/dodd-frank-is-killing-community-banks/#1bce3a4473a7> (Accessed: 4 March 2018).

- Shuy, R. W. (2011) 'Discourse analysis in the legal context', in Schiffrin, D., Tannen, D., and Hamilton, H. E. (eds) *The handbook of discourse analysis*. Blackwell Publishing Ltd, pp. 437–452.
- Sifaki, E. and Mooney, A. (2015) 'Two sides of the same coin: matter and embodiment in metaphors of money', *On the Horizon*. Edited by D. Tanweer Ali. Emerald Group Publishing Limited, 23(3), pp. 202–215.
- Simonite, T. (2014) *The Man Who Really Built Bitcoin*, MIT Technology Review. Available at: <https://www.technologyreview.com/s/527051/the-man-who-really-built-bitcoin/> (Accessed: 12 March 2018).
- Slater, M. (2011) 'Complementary Currency Open Source Software in 2010', *International Journal of Community Currency Research*, 15, pp. 82–87.
- Sloan, A. E. (2015) *Basic legal research : tools and strategies*. Wolters Kluwer Law & Business.
- Smajgl, A., Izquierdo, L. R. and Huigen, M. (2008) 'Modeling Endogenous Rule Changes in an Institutional Context: The ADICO Sequence', *Advances in Complex Systems*, 11(2), pp. 199–215.
- Smith, C. and Lewis, A. (2016) 'Psychological Factors Influencing the Use and Development of Complementary Currencies', *International Journal of Community Currency Research*, 20(20), pp. 2–23.
- Solomon, L. D. (1996) 'Local Currency : A Legal and Policy Analysis', *The Kansas Journal of Law & Public Policy*, 59(5), pp. 59–92.
- Stabe, M., Rininsland, A. and Bernard, S. (2017) *The FT 1000: Europe's fastest-growing companies*, *Financial Times*. Available at: <https://ig.ft.com/ft-1000> (Accessed: 9 February 2018).
- Statista (2017a) *Global gold demand by industry 2016*. Available at: <https://www.statista.com/statistics/299603/gold-demand-by-sector/> (Accessed: 26 July 2017).
- Statista (2017b) *Global silver demand by purpose 2016*. Available at: <https://www.statista.com/statistics/253345/global-silver-demand-by-purpose/> (Accessed: 1 December 2017).
- Steed, S. and Bindewald, L. (2015) *Money with a purpose - Community currencies achieving social, environmental and economic impact*. New Economics Foundation.
- Still, B. (2009) *The Secret of Oz [Movie]*.

Stodder, J. (1998) 'Corporate Barter and Economic Stabilisation Implications for Macroeconomic Theory and Policy', *International Journal of Community Currency Research*, 2, pp. 1–11.

Stodder, J. (2009) 'Complementary credit networks and macroeconomic stability: Switzerland's Wirtschaftsring', *Journal of Economic Behavior and Organization*, 72(1), pp. 79–95.

Sunflower Foundation (2015) *Was ist Geld? Ein Märchen?*, Money Museum. Available at: <http://www.moneymuseum.com/de/moneymuseum/stories/was-ist-geld-ein-maerchen-313?slbox=true> (Accessed: 28 July 2017).

Suzuki, H. (2001) 'Money and Discourse: From a Realist Perspective', in *International Association for Critical Realism Conference*.

Suzuki, H. (2004) *The ontology and ethics of money*. Lancaster University.

Svensson, R. (2013) *The Bracteate as Economic Idea and Monetary Instrument*, IFN Working Papers. 973.

Sylla, R. (2010) *The US Banking System: Origin, Development, and Regulation, History Now*. Available at: <https://www.gilderlehrman.org/history-by-era/hamiltoneconomics/essays/us-banking-system-origin-development-and-regulation> (Accessed: 7 February 2017).

Szabo, N. (2005) *Shelling Out - The Origins of Money, Nick Szabo's Papers and Concise Tutorials*. Available at: <http://szabo.best.vwh.net/shell.html>.

Tapscott, D. and Tapscott, A. (2017) *Realizing the Potential of Blockchain A Multistakeholder Approach to the Stewardship of Blockchain and Cryptocurrencies*, World Economic Forum. Available at: http://www3.weforum.org/docs/WEF_Realizing_Potential_Blockchain.pdf (Accessed: 9 January 2018).

Taylor, A. (2014) 'Community service-learning and cultural-historical activity theory', *Canadian Journal of Higher Education*, 44(1), pp. 95–108.

Taylor, M. (2014) "Being useful" after the Ivory Tower: combining research and activism with the Brixton Pound', *Area*, 46(3), pp. 305–312.

TelesurTV (2018) *Venezuela: 82.4M Units of Petro Cryptocurrency Available*. Available at: <https://www.telesurtv.net/english/news/Venezuela-82.4M-Units-of-Petro-Cryptocurrency-Available-20180220-0004.html> (Accessed: 20 February 2018).

The Economist (2012) *Too big not to fail*, 18 February. Available at: <https://www.economist.com/node/21547784> (Accessed: 2 March 2018).

The Economist (2013) *Ethical banking in Italy, 01 June*. Available at: <https://www.economist.com/news/finance-and-economics/21578691-bank-takes-its-name-seriously-ethical-banking-italy> (Accessed: 11 February 2018).

The Economist (2017) *A spat over language erupts at the World Bank, 29 May*. Available at: <https://www.economist.com/blogs/graphicdetail/2017/05/daily-chart-20> (Accessed: 12 March 2018).

The Royal Mint (no date) *FAQs*. Available at: <http://www.royalmintmuseum.org.uk/about-us/faqs/index.html> (Accessed: 13 March 2018).

Thiel, C. (2012) 'Moral money - The action guiding impact of complementary currencies: A case study of the Chiemgauer regional money', *International Journal of Community Currency Research*, 16, pp. 91–96.

Tichit, A., Mathonnat, C. and Landivar, D. (2016) 'Classifying non-bank currency systems using web data', *International Journal of Community Currency Research*, 20(Summer), pp. 24–40.

Timebanks USA (no date) *CommunityWeaver3*. Available at: <https://timebanks.org/communityweaver3/> (Accessed: 12 March 2018).

TimeBanks USA (no date) *Home*. Available at: <https://timebanks.org/> (Accessed: 12 March 2018).

Tolle, M. (2016) *Central bank digital currency: the end of monetary policy as we know it?*, *Bank Underground*. Available at: <https://bankunderground.co.uk/2016/07/25/central-bank-digital-currency-the-end-of-monetary-policy-as-we-know-it/> (Accessed: 3 September 2017).

Trottier (no date) *Original Bitcoin Readme Text*, *gitub.com*. Available at: <https://github.com/trottier/original-bitcoin/blob/master/readme.txt> (Accessed: 12 March 2018).

Turnbull, S. (2010) 'How Might Cell Phone Money Change the Financial System?', *Capco Institute Journal of Financial Transformation*, 30(11), pp. 33–48.

Turnbull, S. (2016) 'Terminating Currency Options for Distressed Economies', *Athens Journal of Social Sciences*, 3(3), pp. 195–213.

U. S. Constitution (1788) *Annotated Constitution Article I*. Available at: https://www.law.cornell.edu/anncon/html/art1frag92_user.html#art1_sec10cl1 (Accessed: 2 January 2018).

U.K. Parliament (1954) *Currency and Bank Notes Act*. Available at: <http://www.legislation.gov.uk/ukpga/Eliz2/2-3/12> (Accessed: 31 July 2017).

U.S. Congress (1864) *National Bank Act*. Available at: <https://fraser.stlouisfed.org/files/docs/historical/congressional/national-bank-act-1864.pdf> (Accessed: 28 July 2017).

U.S. Congress (1900) *Gold Standard Act*. Available at: <http://legisworks.org/sal/31/stats/STATUTE-31-Pg45a.pdf>.

U.S. Congress (1913) *Federal Reserve Act*. Available at: https://fraser.stlouisfed.org/scribd/?title_id=966&filepath=/files/docs/historical/fr_act/nara-dc_rg011_e005b_pl63-43.pdf (Accessed: 1 August 2017).

U.S. Congress (1956) *Bank Holding Act*. Available at: https://www.law.cornell.edu/uscode/text/12/1841?qt-us_code_temp_noupdates=1#qt-us_code_temp_noupdates (Accessed: 28 July 2017).

U.S. Congress (2009) *Congressional Record Vol. 155 Part 1: Proceedings and Debates of the 111th Congress: First Session*. Available at: https://books.google.de/books?id=I4OdyBwCpA0C&dq=federal+reserve+no+more+federal+express+kucinich&source=gbs_navlinks_s (Accessed: 21 October 2017).

U.S.Code (2017a) *12 U.S. Code Chapter 16 - Federal Deposit Insurance Corporation*. Available at: <https://www.law.cornell.edu/uscode/text/12/chapter-16> (Accessed: 13 August 2017).

U.S.Code (2017b) *12 U.S. Code Chapter 17 - Bank Holding Companies*. Available at: <https://www.law.cornell.edu/uscode/text/12/chapter-17> (Accessed: 13 August 2017).

U.S.Code (2017c) *12 U.S. Code Chapter 3 - Federal Reserve System*. Available at: <https://www.law.cornell.edu/uscode/text/12/411> (Accessed: 13 August 2017).

U.S.Code (2017d) *18 U.S. Code Chapter 25 - Counterfeiting and Forgery*. Available at: <https://www.law.cornell.edu/uscode/text/18/part-II/chapter-25> (Accessed: 13 August 2017).

UK Parliament (2000) *Volunteering and Time Banks, HANSARD Column 252WH*. Available at: https://publications.parliament.uk/pa/cm/199900/cmhansrd/vo000405/halltext/00405h04.htm#00405h04_spnew0.

Ulanowicz, R. E. *et al.* (2009) 'Quantifying sustainability: Resilience, efficiency and the return of information theory', *Ecological Complexity*, 6(1), pp. 27–36.

Uniform Commercial Code (2017) § 1-201 *General Definitions*. Available at: <https://www.law.cornell.edu/ucc/1/1-201> (Accessed: 13 August 2017).

US Secret Service (no date) *About Overview*. Available at: <https://www.secretservice.gov/about/overview/> (Accessed: 2 March 2018).

Usborne, S. (2017) *Digital gold: why hackers love Bitcoin*, *The Guardian*. Available at: <https://www.theguardian.com/technology/2017/may/15/digital-gold-why-hackers-love-bitcoin-ransomware> (Accessed: 13 February 2018).

Valli, J. (2015) *CSR: A Multidisciplinary Concept*. XinXii.

Velde, F. R. (2013) *Bitcoin - A Primer*, *Chicago Fed Letter*. Available at: <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=92563197&site=ehost-live>.

Vergne, J. P. and Swain, G. (2017) 'Categorical Anarchy in the UK? The British Media's Classification of Bitcoin and the Limits of Categorization', in Durand, R., Granqvist, N., and Tyllström, A. (eds) *From Categories to Categorization: Studies in Sociology, Organizations and Strategy at the Crossroads*. Emerald Publishing, pp. 185–222.

Vollgeld Initiative Schweiz (no date). Available at: <https://www.vollgeld-initiative.ch/> (Accessed: 9 March 2018).

Volz, G. and Keller Trevaskis, D. (2012) 'Youth Courts: Lawyers Helping Students Make Better Decisions', *University of Pennsylvania Journal of Law and Social Change*, 15(2), pp. 201–231.

Wainwright, S. (2012) 'Role of the U . S . Federal Government in Currency Creation', *International Journal of Community Currency Research*, 16, pp. 5–13.

Walters, S. (2012) '*I gather not all the bars belong to us*': *Queen's solid gold quip about bullion sell-off*, *Daily Mail Online*. Available at: <http://www.dailymail.co.uk/news/article-2252245/I-gather-bars-belong-Queens-solid-gold-quip-bullion-sell-off.html> (Accessed: 12 March 2018).

Warf, B. and Arias, S. (2009) 'Introduction', in Warf, B. and Arias, S. (eds) *The Spatial Turn - Interdisciplinary perspectives*. Routledge, pp. 1–10.

Watts, A. (2007) *Does it matter? Essays on man's relation to materiality*. New World Library.

Werner, R. A. (2014) 'Can banks individually create money out of nothing? - The theories and the empirical evidence', *International Review of Financial Analysis*, 36, pp. 1–19.

- Westley, K. and Brunken, S. (2002) *Compilation methods of the components of broad money and its balance sheet counterparts*, Bank of England *Monetary & Financial Statistics*. Bank of England.
- Wetherell, M., Taylor, S. and Yates, S. J. (2001) *Discourse Theory and Practice: A Reader*. Edited by M. Wetherell, S. Taylor, and S. J. Yates. Sage Publications Ltd.
- Whaley, D. J. (2013) 'Commercial Paper and Payment Law'. West Academic Publishing.
- Williams, C. C. and Jackson, M. (1997) 'Editorial', *International Journal of Community Currency Research*, 2, pp. 1–2.
- Williamson, J. (2009) *Understanding Special Drawing Rights (SDRs)*. Available at: www.piie.com (Accessed: 14 July 2017).
- WIR Bank (no date) *Geschichte/Leitbild*. Available at: <https://www.wir.ch/ueber-wir/geschichteleitbild/> (Accessed: 12 March 2018).
- Wittgenstein, L. (1986) *Philosophical investigations (1953)*. 3rd edn. Edited by G. E. M. Anscombe. Pearson.
- Wodak, R. and Meyer, M. (2001) 'What CDA is about - a summary of its history, important concepts and its developments', in Wodak, R. and Meyer, M. (eds) *Methods of Critical Discourse Analysis*. Sage, pp. 1–14, 95–121.
- Wolf, M. (2014) *Only the ignorant live in fear of hyperinflation*, *Financial Times*. Available at: <https://www.ft.com/content/46a1ce84-bf2a-11e3-a4af-00144feabdc0> (Accessed: 21 October 2017).
- Wray, L. R. (2012a) *A Meme for Money*, *Levy Institute Working Papers*. (736). Available at: http://www.levyinstitute.org/pubs/wp_736.pdf.
- Wray, L. R. (2012b) *Introduction to an Alternative History of Money*, *Levy Institute Working Papers*. Available at: http://www.levyinstitute.org/pubs/wp_717.pdf.
- Wray, L. R. (2015) *Why Minsky Matters: An Introduction to the Work of a Maverick Economist*. Princeton University Press.
- Wright, R. E. (Robert E. (2008) *One nation under debt : Hamilton, Jefferson, and the history of what we owe*. McGraw-Hill.
- Yamagata-Lynch, L. C. (2010) 'Understanding Cultural Historical Activity Theory', in Yamagata-Lynch, L. C. (ed.) *Activity Systems Analysis Methods*. Springer, pp. 13–26.
- Yang, B. Z. (2007) 'What is (Not) Money? Medium of Exchange ≠ Means of Payment', *The American Economist*, 51(2), pp. 101–104.

- Yelowitz, A. and Wilson, M. (2015) 'Characteristics of Bitcoin users: an analysis of Google search data', *Applied Economics Letters*, 22(13), pp. 1030–1036.
- Zarlenga, S. (2002) *Lost Science of Money: The Mythology of Money - The Story of Power*. American Monetary Institute Charitable Trust.
- Zelizer, V. A. (2004) 'Circuits of Commerce', in Alexander, J. et al. (eds) *Self, Social Structure, and Beliefs: Explorations in the Sociological Thought*. University of California Press, pp. 122–144.
- Zelizer, V. A. (2012) 'How I Became a Relational Economic Sociologist and What Does That Mean?', *Politics & Society*, 40(2), pp. 145–174.
- Zelizer, V. A. (2017) *The social meaning of money (1997)*. Princeton University Press.
- Zelizer, V. A. and Tilly, C. (2006) 'Relations and Categories', in Markmann, A. and Ross, B. (eds) *Psychology of Learning and Motivation*. Elsevier, pp. 1–31.
- Zuckermann, M. J. (2018) *Thailand: Central Bank Asks All Banks To Avoid Crypto, Pending Regulations*, *Cointelegraph.com*. Available at: <https://cointelegraph.com/news/thailand-central-bank-asks-all-banks-to-avoid-crypto-pending-regulations> (Accessed: 12 March 2018).

Appendix

The following table presents the statements from the corpus of Bank of England publications between 2013 and 2017 (see Chapter 6.3) and parsing results as per the grammar of institutions methodology (see Chapter 4.4).

Used abbreviations:

A = Attribute

D = Deontic

I = Aim

C = Conditions

O = Or-Else

Type S = Shared Strategy

Type N = Norm

Type R = Rule

#	Page	Statement	Explanandum (X)	Syntax	Institutional Statement
A		Van Hombeeck, C. E. (2017) An exorbitant privilege in the first age of international financial integration			
1	1	A reserve currency serves as a store of value in an international environment.	reserve currency	A	anybody (internationally)
				D	
				I	to store value
				C	buy X
				O	
				Type:	S
2	1	The currency is an instrument to acquire the safe asset, such as sovereign debt of the reserve country.	currency	A	central bank (of reserve country)
				D	may use X
				I	buy government bonds
				C	(as monetary policy instrument)
				O	
				Type:	N
3	4	The Stock Exchange Yearbook was a financial publication that explained the securities traded in the London Stock Exchange. "Currency" means dollars.	currency	A	Author(s)
				D	define
				I	X as US Dollars
				C	in Stock Exchange Yearbook
				O	
				Type:	N

B	Barrdear, J. and Kumhof, M. (2016) The macroeconomics of central bank issued digital currencies					
1	4	The phrase “digital currency” is, perhaps, a regrettable one, as it may invite a number of misunderstandings among casual readers. Most importantly, there is no innovation in the provision of an electronic form of money, as the vast majority of money in a modern economy is already electronic and has been for some time.	money, digital currency, currency	A	Users/readers	
	D					
	I			digital currency equal elect. money		
	C			when reading, using X		
	O					
		Type: N				
2	4	In the United Kingdom, for example, physical currency (notes and coin) in public circulation represented only 4% of broad money balances in February 2016.5	currency	A	Author(s)	
	D			define		
	I			X is "notes and coins"		
	C			in UK		
	O					
		Type: N				
3	5	By broad money, we refer to the Bank of England's M4x measure, which equals notes and coin held by the non-bank public plus sight and time deposits held by households, private non-financial corporations and non-intermediary other financial corporations. Records of such financial instruments have been held electronically, if perhaps inefficiently, since the advent of the mainframe computer.	broad money	A	Author(s)	
	D			define		
	I			X is currency + (time) deposits		
	C			in UK		
	O					
		Type: N				
4	5	Records of such financial instruments have been held electronically, if perhaps inefficiently, since the advent of the mainframe computer. Barrdear, J. and Kumhof, M. (2016) The macroeconomics of central bank issued digital currencies, Staff Working Paper. 605. Bank of England.	broad money	A	Author(s)	
	D			define		
	I			X is electronic		
	C			since mainframe computers existed		
	O					
		Type: N				

5	5	If the definition of money is allowed to expand further, then the share of the total held in physical form will naturally be still less. Indeed, in our formal model, we will refer to all non-equity items on the liability side of the aggregate balance sheet of the entire financial system as deposits, because all of them represent “safe, information-insensitive financial assets” in the sense of Gorton, Lewellen and Metrick (2012).	money	A	Author(s)
				D	define
				I	X is all that is used for transactions
				C	in wider definition
				O	
				Type:	N
6	5	Nor is there particular innovation in the provision of electronic access to money, as debit and credit cards, internet banking and their union in online shopping have all been available for some time. Instead, the innovations proposed by existing private digital currencies, beyond the advocacy of new units of account and hard money supply rules, are particular to the manner in which electronic records of money and its exchange are implemented.	digital currency	A	Author(s)
				D	define
				I	X as electronic recorded money
				C	currently
				O	
				Type:	N
7	5	Instead, the innovations proposed by existing private digital currencies, beyond the advocacy of new units of account and hard money supply rules, are particular to the manner in which electronic records of money and its exchange are implemented.	digital currency	A	Author(s)
				D	define
				I	novelty of X is new units of account
				C	currently
				O	
				Type:	N
8	5	In particular, digital currencies propose a distributed ledger and a payment system, in other words a process to update the ledger, that is decentralised, with copies of the ledger distributed across many agents and with no individual entity being indispensable in order for any given payment to be processed.	digital currency	A	Author(s)
				D	define
				I	novelty of X is decentralized records
				C	currently
				O	
				Type:	N

9	5	Consequently, in this paper we define “digital currency” as any electronic form of money, or medium of exchange, that features a distributed ledger and a decentralised payment system.	digital currency	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as elect. money with new features</div> <div>currently</div>
10	5	Private non-financial agents gain access to the system by holding claims on specific financial institutions.	payment system	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Non-finance agents</div> <div>may</div> <div>access X</div> <div>if the hold claims (IOUs)</div>
11	5	In order to ensure agents’ trust in the system, banks are regulated and subject to capital, leverage and liquidity requirements.	payment system	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: R</div>	<div>Banks</div> <div>must comply with regulations</div> <div>to ensure trust of agents (in X)</div> <div>when operating in constituency</div> <div>(fined)</div>
12	5	Although necessary to ensure financial stability, these regulations represent barriers to entry and thereby grant banks pricing power, including power over the pricing of their liabilities	bank liabilities	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Banks</div> <div>may</div> <div>price liabilities (X) towards customers</div> <div>if compliant with regulation</div>

13	5	liabilities, which serve as the economy's primary transaction medium.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as primary transaction medium</div> <div>in constituency</div> <div></div> <div>N</div> <div>Central bank</div> <div></div> <div>issues X to lower debt burden</div> <div>in constituency</div> <div></div> <div>S</div> <div>Author(s)</div> <div>define</div> <div>X from CB is not debt</div> <div>in constituency</div> <div></div> <div>N</div> <div>Government</div> <div></div> <div>supplies X</div> <div>when households and firms demand</div> <div></div> <div>S</div>
14	9	When the central bank issues money and holds government debt against it, this has two effects of relevance in this matter. First, it lowers the government's interest burden, as profits made from the central bank's net interest margin are remitted back to the government, thereby making any given stock of debt more sustainable.	money		
15	11	In this context, it bears re-emphasising that central bank money, while found on the liability side of the central bank's balance sheet, is neither defaultable nor redeemable, and is therefore different from the common conception of debt.	money		
16	17	The assumption of exogenous government money is problematic for two reasons. First, as discussed in Jakab and Kumhof (2015), government-supplied money as it exists today, which includes cash and reserves, is fully endogenous. This means that during normal times (this excludes economies operating at the zero lower bound for nominal interest rates) it is supplied by the government on demand, with demand coming either from households and firms (cash) or banks (reserves).	money		

17	17f	In our exposition, we will use the terms money, monetary transaction balances and liquidity interchangeably.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as transaction balance or liquidity in their paper</div>
C		Broadbent, B. (2016) Speech: Central banks and digital currencies			
1	1	The main point here is that the important innovation in bitcoin isn't the alternative unit of account – it seems very unlikely that, to any significant extent, we'll ever be paying for things in bitcoins, rather than pounds, dollars or euros	bitcoin	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>novelty of X not unit of account currently</div>
2	1	Acting as a trusted third party is precisely what a central bank does. It performs that role only for one particular asset, central bank money (i.e. reserve deposits held largely by commercial banks at the central	CB money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	<div>Central Bank</div> <div>ensures trust as third party for X constant</div>
3	3	Currently, retail deposits are backed mainly by illiquid loans, assets that can't be sold on open markets; if we all tried simultaneously to close our accounts, banks wouldn't have the liquid resources to meet the demand.	retail deposits	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Commercial Banks</div> <div>cannot disburse all X if all clients demand it at once</div>

4	3	The central bank, by contrast, holds only liquid assets on its balance sheet. The central bank can't run out of cash and therefore can't suffer a "run".	CB liabilities	A D I C O Type: N	Central Bank can disburse all X if simultaneously demanded by all
5	4	One thing those articles make clear is that the key innovation introduced by something like "bitcoin" is not so much that it's "digital", if by that we mean that balances are stored electronically. A. If a "digital" currency is one whose accounts are little more than a series of zeros and ones on some distant electronic machine, well that's long been the case.	bitcoin & money	A D I C O Type: N	Author(s) define all X to be mostly electronic since computers were invented
6	4	And if the word "currency" indicates an alternative unit of account – the "bitcoin", for example – nor is this likely to be of enduring significance. You can find goods and services quoted in bitcoin.	currency	A D I C O Type: N	Author(s) define X as unit of account in everyday life.
7	4	One should also recognise that established currencies have a significant built-in advantage. Rather like a common language, the benefit to any individual of using a particular unit of account is greater if others use it too. That gives a big head-start to the incumbent.	currency	A D I C O Type: N	Users have advantage when using conventional X
				Type: S	

8	5	So if it's neither the "digital" nor the "currency" aspect of bitcoin that matters, what is it that has sparked so much interest? Well perhaps a better name for what we're talking about, albeit more of a mouthful, is a "decentralised virtual clearinghouse and asset register".	bitcoin	A D I C O Type: N	Author(s) define X as clearing house and asset register to avoid confusion
D		Tolle, M. (2016) Central bank digital currency: the end of monetary policy as we know it?			
1	n.a.	Money mostly consists of electronic deposits: broad money consists of (currency and) households' and firms' deposits with commercial banks, while base or CB money consists of (currency and) commercial banks' deposits with the CB ('CB reserves').	money	A D I C O Type: N	Author(s) define X consist mostly of deposits in modern economy
2	n.a.	Cash is simply coins and notes – embodiments of 'money.' Because banknotes and coins circulate in the economy, they are also referred to as 'currency'.	cash	A D I C O Type: N	Author(s) define X is notes and coins equal currency in modern economies
3	n.a.	Bank deposits are not, because banks engage in lending that incurs at least some risk. As Mervyn King (2010) remarked, the 'pretence that risk-free deposits can be supported by risky assets is alchemy'.	deposits	A D I C O Type: N	Author(s) define X of commercial banks risky, of CB not in modern economies

4	n.a.	Commercial banks currently have the power to create money. When a bank makes a loan, it simultaneously creates a deposit, adding to broad money. Banks hold a fraction of the loans they extend as CB reserves, so as to back a fraction of their deposit liabilities with CB reserves – a setup known as fractional reserve banking.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X created by commercial</div> <div>when creating deposits or reserves</div>
E		Jakab, Z. and Kumhof, M. (2015) Banks are not intermediaries of loanable funds - and why this matters			
1	5	While money is essential to facilitating purchases and sales of real resources outside the banking system,	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	<div>X</div> <div></div> <div>useful to buy good and services</div> <div>outside banking sector</div> <div></div>
2	5	While money is essential to facilitating purchases and sales of real resources outside the banking system, it is not itself a physical resource, and can be created at near zero cost.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X not materially limited</div> <div>as can be created at zero cost</div> <div></div>
3	3	This is never in question, because bank demand deposits are any modern economy's dominant medium of exchange, in other words its money. Bank deposits can fulfill this role because the central bank and/or government, though a combination of deposit insurance, prudential regulation and lender of last resort functions, ensures that bank deposits are considered safe by the public, and therefore trade at par with base money.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>deposits are X</div> <div>when predominantly used in economy</div> <div></div>

4	3	Bank deposits can fulfill this role because the central bank and/or government, though a combination of deposit insurance, prudential regulation and lender of last resort functions, ensures that bank deposits are considered safe by the public, and therefore trade at par with base money.	deposits	A	Public
				D	
				I	trusts X as money
				C	because CB and gov. ensure it
				O	
				Type:	S
5	8	The critical insight is that banks can create their own funds instantaneously, and that there is a well-defined demand for those funds, whether they are called money or not.	money	A	Authors(s)
				D	define
				I	bank funds as X
				C	independent of naming convention
				O	
				Type:	N
6	9	Second, cash represents an extremely small fraction of the overall stock of money in modern economies, and banking transactions would proceed in exactly the way they proceed today if cash no longer existed at all.	cash	A	Author(s)
				D	define
				I	X irrelevant
				C	in modern economy
				O	
				Type:	N
7	12	The bank has created new purchasing power, money, through lending.	money	A	Authors(s)
				D	define
				I	X as purchasing power
				C	when created by commercial banks
				O	
				Type:	N

8	12	In a modern economy cheques or money orders drawn on bank accounts are not only acceptable legal tender, they are the dominant practical means of making such payments, and Investor B would not remain in business for long if he did not accept them.	deposits	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as legal tender and form of money in business world</div>
9	15	banks do not intermediate pre-existing loanable funds in the form of goods, but create new deposits, in the form of money, through lending.	deposits	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as form of money if created through bank loan</div>
F		Haldane, A. G. (2015) Speech: How low can you go?			
1	2	A central bank's liabilities comprise two elements – currency with the public and deposits from banks.	CB liabilities	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>defines</div> <div>X as (cash) and deposits from bank in modern economy</div>
2	11	Government-backed currency is a social convention, certainly as the unit of account and to lesser extent as a medium of exchange. These social conventions are not easily shifted, whether by taxing, switching or abolishing them	currency	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as inert social convention in its function as UoA and MoE</div>

G	Bank of England (2015) The Bank of England's Sterling Monetary Framework					
1	4	Nevertheless, whenever payments are made between the accounts of customers at different banks, they are ultimately settled by transferring central bank money (reserves) between the reserves accounts that 'settlement banks' hold at the Bank of England. Hence, the use of 'commercial bank money' relies on the use of central bank Money.	commercial bank money	A	Commercial bank	
				D	must	
				I	use CB money	
				C	when making payments in X	
				O		
				Type:	N	
H	Fish, T. and Whymark, R. (2015) How has cash usage evolved in recent decades? What might drive demand in the future?					
1	2	There are two types of money held by firms and households: cash and bank deposits.	money	A	Author(s)	
				D	define	
				I	X as cash and deposits	
				C	in UK	
				O		
				Type:	N	
2	2	A third type of money is central bank reserves — deposits placed by commercial banks with the Bank of England.	money	A	Author(s)	
				D	define	
				I	X as cash, deposits and CB reserves	
				C	in UK	
				O		
				Type:	N	

3	2	When a consumer withdraws cash from his or her bank account, they are exchanging electronic deposits for physical currency — the total amount of money in circulation remains unchanged.	cash	A D I C O Type: S	consumers exchange X and deposits at bank without changing money supply
I		Rule, G. (2015) Understanding the Central Bank Balance Sheet, Center for Central Bank Studies Handbook			
1	1	Central banks control the price of money by adjusting the terms and availability of their liabilities.	money	A D I C O Type: N	CB can put price on X through availability of X
2	5	banknotes and commercial bank reserves — are both a form of money in a modern economy and in fact underpin nearly all other forms of money.	CB money	A D I C O Type: N	Author(s) define X to be foundation of all other monies in modern economy.
3	5	Money, however, is special as it a means of transaction between agents that does not require them to necessarily trust each other. Agents should always be willing to accept money, as both a store of value and a unit of account, as long as they trust the issuer of such money. The central bank's balance sheet plays a vital role in providing the trust that underpins most forms of money in an economy.	money	A D I C O Type: S	Agents use X if they don't trust each other.

3	5	Agents should always be willing to accept money, as both a store of value and a unit of account, as long as they trust the issuer of such money.	money	A D I C O Type: N	Issuer (CB) must be trustworthy for money to fulfill its function
5	6	When money needs to be transferred between two commercial banks, reserves move across the balance sheet of the central bank with one commercial bank's reserve account being debited and another being credited.	CB reserves	A D I C O Type: N	commercial banks must transfer X to enable payments in deposits
6	9	In contrast money held in electronic form at commercial banks cannot be physically stolen. Even in the case of bank robberies, neither electronic fraud nor the loss of physical banknotes is assigned to particular accounts.	electronic money	A D I C O Type: N	Commercial banks cannot hold customers liable in case electronic money gets stolen (deposit insurance)
7	2	A common currency is needed to transfer these balances and in most cases this is commercial bank reserves held on account at the central bank.	CB reserves	A D I C O Type: N	Author(s) define X as "common currency" between commercial banks

J		Bholat, D., Grant, J. and Thomas, R. (2015) Monies – Joining Economic and Legal Perspectives	
1	n.a.	Anything can function as money. And many things have: cattle; cowry shells; even cigarettes.	money
			A people
			D can use
			I anything as X
			C always
			O
2	n.a.	But as Minsky once said, while “everyone can create money, the problem is to get it accepted.”	Type: N
			A Anybody
			D may
			I issue X
			C always
			O
3	n.a.	Monies produced by the Royal Mint and the Bank of England (BoE) are the ultimate means of payment, followed by private sector claims, in order of how immediate they provide for full convertibility into these.	Type: N
			A Authors
			D define
			I X in hierarchy
			C Of issuer and convertibility
			O
4	n.a.	Some economists argue that this hierarchy of money is the result of legal privileges, especially legal tender legislation	Type: N
			A X
			D must
			I be treated differentially
			C due to legislation
			O
			Type: N

5	n.a.	So if we want to explain why state issued tokens and claims, and promises of immediate conversion into them, are monies, legal tender laws seem less important than other legal attributes that make them trusted and give people comfort they can get someone else to accept them.	legal tender & money	A D I C O Type: N	X can be disregarded for different status of monies
6	n.a.	Today these physical attributes of metal monies have legal analogues.	commodity money	A D I C O Type: N	Metal attributes can be traced in legal definitions of fiat money
7	n.a.	First, a fiver is portable because it is legally negotiable: it can be transferred to others without each time gaining consent from the BoE (the fiver's issuer), and, once transferred, it's free and clear of any claims being brought by those who previously possessed it provided it was taken in good faith	cash money	A D I C O Type: R	X must be freely transferable albeit not backed by gold else law is violated
8	n.a.	Second, fivers are uniform because they are fungible: each can substitute for another. This is because the rights and obligations they confer are the same.	cash money	A D I C O Type: R	X must be redeemable in other X albeit not backed by gold else law is violated

9	n.a.	Finally, durability means maintaining fixed nominal value through time. A rough legal equivalent of durability is an option for instant par redemption.	money	<div>A</div> <div>X</div> <div>is required to</div> <div>I</div> <div>maintain a constant value</div> <div>C</div> <div>albeit not backed by gold</div> <div>O</div> <div>Type: N</div>
10	n.a.	While all monies share hues of negotiability, fungibility, and instant par redemption, each type of money also has unique legal features. Ordinarily, these legal differences don't matter because one type of money is easily convertible into another.	money	<div>A</div> <div>legal differences of X</div> <div>D</div> <div>can</div> <div>I</div> <div>be disregarded</div> <div>C</div> <div>as long as fungibility is maintained</div> <div>O</div> <div>Type: N</div>
11	n.a.	For example, in ordinary times, although term bank deposits accrue interest and BoE notes do not, they are treated by most people as equivalents.	money	<div>A</div> <div>People</div> <div>D</div> <div>I</div> <div>treat monies as equal</div> <div>C</div> <div>when not in financial crises.</div> <div>O</div> <div>Type: S</div>
12	n.a.	However, during financial crises, qualitative differences reassert themselves and, in the extreme, parity breaks down. In classic bank runs, for example, individuals seek to convert bank balances into cash	money, cash	<div>A</div> <div>People</div> <div>D</div> <div>I</div> <div>prefer cash</div> <div>C</div> <div>in times of crises</div> <div>O</div> <div>Type: S</div>

13	n.a.	Here our analysis chimes with research in sociology and behavioural economics showing that money is not singular but plural	money	A	Author(s)
				D	define
				I	X as plural
				C	as in sociology
				O	
				Type:	N
14	n.a.	Sterling coins are manufactured by the Royal Mint Limited, a public limited company wholly owned by HM Treasury through the Royal Mint Trading Fund.	coins	A	X
				D	can only
				I	called sterling
				C	if issued by Royal Mint
				O	else forgery
				Type:	R
15	n.a.	Royal Mint coins are unique among UK monies in that they are not the legal obligations of any counterparty,	coins	A	Royal Mint
				D	may as monopoly
				I	issue sterling coins
				C	without obligation to redeem
				O	else forgery
				Type:	R
16	n.a.	Legally, notes represent debt obligations of the Bank.	notes	A	Bank of England
				D	must
				I	exchange notes
				C	if asked by bearer
				O	or else law is violated
				Type:	R

17	n.a.	BoE reserve accounts are debt obligations owed by the Bank to commercial banks and other Sterling Monetary Framework (SMF) participants.	reserves	A	Bank of England
				D	must
				I	convert reserves
				C	if asked by bank
				O	or else law is violated
				Type:	R
18	n.a.	These notes are not legal tender even in Scotland and Northern Ireland. Rather, they circulate by convention, underscoring our thesis about the importance of other legal attributes besides legal tender legislation in conferring 'money-ness.'	notes	A	X
				D	
				I	are excepted in NI and Scotland
				C	in absence of legal obligation
				O	
				Type:	S
19	n.a.	As a result of the Banking Act 2009, these notes are backed in full by a combination of Royal Mint coins, BoE notes and reserve account balances.	NI & S notes	A	X
				D	must
				I	be backed by BoE or Mint monies
				C	if issued by licensed banks
				O	or else violation of Banking Act
				Type:	R
20	n.a.	Banks and mutual organisations offer current and other types of spendable accounts used for payments.	bank accounts	A	X
				D	
				I	are offered for payments
				C	by commercial banks to clients
				O	
				Type:	S

21	n.a.	On the one hand, these accounts are unsecured debt obligations of private organisations. On the other hand, many are backed up to certain limits by statutory guarantees.	bank accounts	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as ambiguous</div> <div>as it is unsecured but guaranteed</div>
K		Ali, R. et al. (2014) The economics of digital currencies			
1	278	In some ways, digital currencies resemble — and are intended to resemble — earlier forms of money and of payment systems.	digital currencies	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	<div>Creators</div> <div></div> <div>made X to resemble old monies</div> <div>to be used for payment</div>
2	278	With conventional bank deposits, banks hold the digital record and are trusted to ensure its validity.	deposits	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Banks</div> <div>must</div> <div>validate balances</div> <div>to be trusted</div>
3	279	Banknotes issued by a central bank are also a special form of non-convertible claim, of the physical bearer on the central bank — and are liabilities of the central bank and assets to the noteholder.	banknotes	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as unredeemable asset</div> <div>between bearer and CB</div>

4	279	In contrast to commonly used forms of money such as banknotes or bank deposits, digital currencies are not a claim on anybody. In this respect, they can therefore be thought of as a type of commodity.	digital currencies	A	X
				D	defined
				I	as a commodity
				C	if irredeemable
				O	
				Type:	N
5	279	Digital currencies have meaning only to the extent that participants agree that they have meaning.	digital currencies	A	People
				D	
				I	give X meaning
				C	by agreement
				O	
				Type:	S
6	279	Not being an IOU or liability of the central bank (or the state) does not prevent digital currencies from being used as money	money, digital currency	A	Author(s)
				D	define
				I	X as congruent
				C	even if not liability of CB
				O	
				Type:	N
7	279	Most existing digital currencies incorporate strict rules that govern their creation, following a pre-determined path to a fixed eventual total supply.	digital currencies	A	issuers
				D	
				I	define governance rules
				C	for issuance of X
				O	
				Type:	S

8	279	Furthermore, meeting these economic definitions does not necessarily imply that an asset will be regarded as money for legal or regulatory purposes.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as independent</div> <div>from appraisal in economics</div>
9	280	an asset can only act as a medium of exchange if at least two people (as parties to a transaction) are prepared to treat it as a store of value, at least temporarily.	asset, medium of exchange	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>X</div> <div>can only</div> <div>be congruent</div> <div>if at least two users see it as store of value</div>
10	280	Finally, for an asset to be considered a unit of account, it must be able — in principle, at least — to be used as a medium of exchange across a variety of transactions between several people and as such represents a form of coordination across society.	asset, unit of account	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>X</div> <div>can only</div> <div>be congruent</div> <div>if many people use it as MoE</div>
11	280	Indeed, it is commonly argued that a defining feature of monetary policy lies in central banks' control of the unit of account.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>UoA as most important feature</div> <div>for monetary policy effectiveness</div>

12	280	In theory, digital currencies could serve as money for anybody with an internet-enabled computer or device.	digital currencies, money	A D I C O Type: N A D I C O Type: S A D I C O Type: N	Author(s) define X as congruent for anybody with internet N Only few use X congruent when making payments S X cannot be called UoA because too few price in it N
13	280	At present, however, digital currencies fulfill the roles of money only to some extent and only for a small number of people.	digital currencies, money		
14	281	There is little evidence of any digital currency being used as a unit of account. [...] Retailers that quote prices in bitcoins appear to usually update those prices at a high frequency so as to maintain a relatively stable price when expressed in traditional currencies such as US dollars or sterling.	digital currency		
15	285	where everybody sought to conduct the totality of their day-to-day transactions entirely within the alternative currency and switch into sterling only when strictly necessary for interaction with the state (such as to pay taxes). This would represent a significant change. Since in this extreme scenario all payments would be conducted away from sterling as base money for essentially all of the economy, the Bank's ability to influence price- setting and real activity would be severely impaired.	digital currencies	A D I C O Type: N A D I C O Type: N	X must be regulated to maintain mandate of CB if used widely N

16	280	Any non-monetary concerns, such as an ideological preference for one particular currency.	digital currencies	A D I C O Type: S	people
L		Ali. R. et al. (2014) Innovations in payment technologies and the emergence of digital currencies			
1	264	Money and payment systems are intrinsically linked. The payment technology used in most economies today evolved from the early banking system and still retains structural characteristics from those roots. Early payments were made by exchanging intrinsically valuable items such as gold coins.	money	A D I C O Type: N	Author(s) define X as related to gold when linked to payment systems
2	626	A digital currency scheme incorporates both a new decentralised payment system and a new currency.	digital currencies	A D I C O Type: N	Author(s) define X as new payment system and UoA
3	626	Most digital currencies are 'cryptocurrencies', in that they seek consensus through means of techniques from the field of cryptography.	crypto currencies	A D I C O Type: N	Author(s) define X as currency with crypt. consensus

5	265	Throughout history there have been many different manifestations of money, both physical and electronic.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as coming in different manifestations throughout history</div> <div></div> <div></div> <div>N</div> <div>X</div> <div>must have</div> <div>payment system</div> <div>to count as means of exchange</div> <div></div> <div>N</div> <div>Banks</div> <div>had to</div> <div>make X convertible to each other</div> <div>to enable transactions between them</div> <div></div> <div>N</div> <div>Banks</div> <div></div> <div>started to accept each others IOUs to reduce transaction costs</div> <div></div> <div>S</div> <div></div>
6	265	In order for money to function as a medium of exchange, there needs to be a system to enable transfers of value — that is, a payment system	money		
7	265	requiring the transfer of money to a different bank would require the bearer of a note to first convert it into gold and then to physically transport it to the new bank, a cumbersome process.	money , currency		
8	265	The pressure to reduce these transaction costs led to banks starting to accept claims on each other.	bank deposits		

9	265	The system worked by requiring all the member banks to hold balances against the risks they brought to the system. The bank operating the clearing system was, in effect, taking on some of the functions of a central bank	bank deposits	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	Central Banks
M		McLeay, M., Radia, A. and Thomas, R. (2014) Money creation in the modern economy			
1	16	Commercial banks create money, in the form of bank deposits, by making new loans. Instead, it credits their bank account with a bank deposit of the size of the mortgage. At that moment, new money is created.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	bank
2	16	And reserves are, in normal times, supplied 'on demand' by the Bank of England to commercial banks in exchange for other assets on their balance sheets.	CB reserves	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	Central Bank
2	16	In no way does the aggregate quantity of reserves directly constrain the amount of bank lending or deposit creation.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>creates X</div> <div>when banks demand it</div> <div>S</div> <div>banks</div> <div>not restraint</div> <div>in creation of new X</div> <div>by issuance of CB reserves</div>

3	16	Bank deposits are simply a record of how much the bank itself owes its customers. So they are a liability of the bank, not an asset that could be lent out.	deposits	A	Author(s)
				D	define
				I	X as liability, not an asset
				C	to their customers
				O	
				Type:	N
4	16	A related misconception is that banks can lend out their reserves. Reserves can only be lent between banks, since consumers do not have access to reserves accounts at the Bank of England.	CB reserve	A	Banks
				D	Cannot lend
				I	X to customers only to other banks
				C	when payments need settling
				O	
				Type:	N
5	17	Banks making loans and consumers repaying them are the most significant ways in which bank deposits are created and destroyed in the modern economy.	deposits	A	Banks
				D	
				I	destroy X
				C	when loans get repaid by customers
				O	
				Type:	S
6	17	Banks buying and selling government bonds is one particularly important way in which the purchase or sale of existing assets by banks creates and destroys money. Money can also be destroyed through the issuance of long-term debt and equity instruments by banks.	money	A	Banks
				D	
				I	destroy X
				C	when buying or issuing debenture
				O	
				Type:	S

7	17	Banks themselves face limits on how much they can lend. In particular: Market forces constrain lending because individual banks have to be able to lend profitably in a competitive market. Lending is also constrained because banks have to take steps to mitigate the risks associated with making additional loans. Regulatory policy acts as a constraint on banks' activities in order to mitigate a build-up of risks that could pose a threat to the stability of the financial system.	money	<div>A</div> <div>Banks cannot create more X as market and regs determine</div> <div>O</div> <div>Type: N</div>	<div>A</div> <div>Banks cannot create more X as market and regs determine</div> <div>O</div> <div>Type: N</div>
8	17	Money creation is also constrained by the behaviour of the money holders — households and businesses. Households and companies who receive the newly created money might respond by undertaking transactions that immediately destroy it, for example by repaying outstanding loans.	money	<div>A</div> <div>customers may destroy all or part of new X by paying off existing debt</div> <div>O</div> <div>Type: N</div>	<div>A</div> <div>customers may destroy all or part of new X by paying off existing debt</div> <div>O</div> <div>Type: N</div>
9	17	The ultimate constraint on money creation is monetary policy. By influencing the level of interest rates in the economy, the Bank of England's monetary policy affects how much households and companies want to borrow. This occurs both directly, through influencing the loan rates charged by banks, but also indirectly through the overall effect of monetary policy on economic activity	money	<div>A</div> <div>Bank are limited in creating X depending on CB policy and rates</div> <div>O</div> <div>Type: N</div>	<div>A</div> <div>Bank are limited in creating X depending on CB policy and rates</div> <div>O</div> <div>Type: N</div>
10	21	The supply of both reserves and currency (which together make up base money) is determined by banks' demand for reserves both for the settlement of payments and to meet demand for currency from their customers — demand that the central bank typically accommodates.	base money	<div>A</div> <div>CB issues X depending on demand</div> <div>O</div> <div>Type: S</div>	<div>A</div> <div>CB issues X depending on demand</div> <div>O</div> <div>Type: S</div>

11	23	Notes and coin, deposits, certificates of deposit, repos and securities with a maturity of less than five years held by the non-bank private sector.	M4	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	Bank of England defines X as certain monies and securities when describing stock of money
N		McLeay, M., Radia, A. and Thomas, R. (2014) Money in the Modern Economy: An Introduction			
1	5	Most people in the world use some form of money on a daily basis to buy or sell goods and services, to pay or get paid, or to write or settle contracts.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	people use money to make purchases and pay salaries
2	5	But despite its importance and widespread use, there is not universal agreement on what money actually is. That is partly because what has constituted money has varied over time and from place to place.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	Author(s) define X as not agreed on regardless of its widespread use
3	5	97% of the money held by the public is in the form of deposits with banks, rather than currency.	money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	Author(s) define X as mostly deposits in modern economies

4	5	Many different goods or assets have been used as money at some time or in some place. Goods are things that are valued because they satisfy people's needs or wants, such as food, clothes or books. An asset, such as machinery, is something that is valuable because it can be used to produce other goods or services.	money	A	Author(s)
				D	define
				I	X as something that satisfies needs
				C	at different times
				O	
				Type:	N
5	6	Historically, the role of money as the medium of exchange has often been viewed as its most important function by economists.	money	A	Economist
				D	
				I	describe X as medium of exchange
				C	when putting functions in hierarchies
				O	
				Type:	S
6	6	Money in the modern economy is just a special form of IOU, or in the language of economic accounts, a financial asset.	money	A	Author(s)
				D	define
				I	X as special IOU
				C	in modern economy
				O	
				Type:	N
7	6	Financial assets are simply claims on someone else in the economy — an IOU to a person, company, bank or government.	financial assets	A	Author(s)
				D	define
				I	X as claims expressed in money
				C	between anybody in economy
				O	
				Type:	N

8	7	Because financial assets are claims on someone else in the economy, they are also financial liabilities — one person's financial asset is always someone else's debt.	financial liabilities	A	Author(s)
				D	define
				I	X as financial assets
				C	when expressed as debt
				O	
				Type:	N
9	7	Money is a social institution that provides a solution to the problem of a lack of trust.	money	A	Author(s)
				D	define
				I	X as social institution
				C	when confronting lack of trust
				O	
				Type:	N
10	7	Money in the modern economy is an IOU that everyone in the economy trusts.	money	A	Author(s)
				D	define
				I	X IOU that everybody trusts
				C	in modern economy
				O	
				Type:	N
11	7	Money today is a special type of IOU. To understand that further, it is useful to consider some of the different types of money that circulate in a modern economy each type representing IOUs between different groups of people.	money	A	Author(s)
				D	define
				I	X to exist in different types
				C	when conceptualising it as IOU
				O	
				Type:	N

12		<p>'broad money' circulating in the economy. This can be thought of as the money that consumers have available for transactions, and comprises: currency (banknotes and coin), an IOU from the central bank, mostly to consumers in the economy; and bank deposits, an IOU from commercial banks to consumers.</p>	broad money	A	Author(s)
	7			D	define
				I	X as two things: currency and deposits
				C	when seeing it as IOUs in circulation
				O	
				Type:	N
13		<p>A different definition of money, often called 'base money' or 'central bank money', comprises IOUs from the central bank: this includes currency (an IOU to consumers) but also central bank reserves, which are IOUs from the central bank to commercial banks.</p>	base money	A	Author(s)
	7			D	define
				I	X as two things: currency and reserves
				C	when seeing it as IOUs from CB
				O	
				Type:	N
14		<p>Currency is made up mostly of banknotes (around 94% of the total by value as of December 2013), most of which are an IOU from the Bank of England to the rest of the economy.</p>	currency	A	Author(s)
	8			D	define
				I	X as two things: notes and coins
				C	as liabilities from CB to everyone else
				O	
				Type:	N
15		<p>Since 1931, Bank of England money has been fiat money. Fiat or 'paper' money is money that is not convertible to any other asset (such as gold or other commodities).</p>	CB money	A	X
	8			D	does not need to
				I	be backed by gold
				C	when issued by CB
				O	since Act in 1931
				Type:	R

16	9	Because fiat money is accepted by everyone in the economy as the medium of exchange, although the Bank of England is in debt to the holder of its money, that debt can only be repaid in more fiat money.	fiat money	<div>A</div> <div>X</div>
				<div>D</div> <div>can only</div>
				<div>I</div> <div>be repaid in more fiat</div>
				<div>C</div> <div>if everybody accepts it</div>
				<div>O</div>
				<div>Type:</div> <div>N</div>
17	9	With fiat money, changes in the demand for money by the public can be matched by changes in the amount of money available to them.	fiat money	<div>A</div> <div>Issuers</div>
				<div>D</div> <div>can</div>
				<div>I</div> <div>match stock of X and demand</div>
				<div>C</div> <div>if not backing money with gold</div>
				<div>O</div>
				<div>Type:</div> <div>N</div>
18	10	To be comfortable holding currency, people need to know that at some point someone would be prepared to exchange those notes for a real good or service, which the state can help guarantee. One way it can do this is to make sure that there ill always be demand for the currency by accepting it as tax payments.	fiat notes	<div>A</div> <div>State</div>
				<div>D</div> <div>can</div>
				<div>I</div> <div>ensure trust in purchasing power</div>
				<div>C</div> <div>of X not backed by gold</div>
				<div>O</div>
				<div>Type:</div> <div>N</div>
19	10	They need to trust that their banknotes are valuable, which means that it is important that banknotes are difficult to counterfeit.	fiat notes	<div>A</div> <div>Issuer</div>
				<div>D</div> <div>must</div>
				<div>I</div> <div>ensure confidence in X</div>
				<div>C</div> <div>by making them hard to forge</div>
				<div>O</div>
				<div>Type:</div> <div>N</div>

20	10	They also need to have faith that the value of their banknotes will remain broadly stable over time if they are to hold them as a store of value and be able to use them as a medium of exchange. This generally means the state must ensure a low and stable rate of inflation.	fiat notes	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Issuer</div> <div>must</div> <div>ensure confidence in X</div> <div>by managing rate of inflation</div>
21	10	The Bank of England makes sure it creates enough banknotes to meet the public's demand for them.	fiat notes	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>CB</div> <div>must</div> <div>meet demand for X</div> <div>when public prefers them</div>
22	10	Moreover, currency does not pay interest, making it less attractive to hold than other assets, such as bank deposits, that do. For these reasons, consumers prefer to mostly hold an alternative medium of exchange — bank deposits,	bank deposits	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Households</div> <div></div> <div>prefer X over cash</div> <div>if they are after interest gains</div>
23	11	In the modern economy, bank deposits are often the default type of money. Most people now receive payment of their salary in bank deposits rather than currency. And rather than swapping those deposits back into currency, many consumers use them as a store of value and, increasingly, as the medium of exchange.	bank deposits	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	<div>Households</div> <div></div> <div>make X the default type of money</div> <div>if used for purchases and salaries</div>
				<div>Type: S</div>	

24	11	When a bank makes a loan to one of its customers it simply credits the customer's account with a higher deposit balance. At that instant, new money is created.	money, deposit	A D I C O Type: S	Banks create new money when granting a loan to households
25	11	banks' ability to create IOUs is no different to anyone else in the economy. The only difference is that for the reasons discussed earlier, the bank's IOU (the deposit) is widely accepted as a medium of exchange — it is money.	bank deposits	A D I C O Type: N	Author(s) define X as special when widely accepted for payments
26	11	Commercial banks need to hold some currency to meet frequent deposit withdrawals and other outflows. But to use physical banknotes to carry out the large volume of transactions they do with each other would be extremely cumbersome. So banks are allowed to hold a different type of IOU from the Bank of England, known as central bank reserves	CB money	A D I C O Type: N	Banks must hold sufficient X to meet household demand for cash
27	9	Overall, while they perform — to a varying extent — some of the functions of money, at present they are not typically accepted as a medium of exchange to the same extent	digital currencies	A D I C O Type: N	Author(s) define X as money only when used as MoE

28	9	One set of innovations allows households and businesses to convert bank deposits into other, purely electronic forms of money (sometimes referred to as 'e-money') that can be used to carry out transactions.	Payment systems	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	<div>Payment providers</div> <div>offer ways to convert deposits according to household preference</div>
29	9	For example, money in an e-money account represents a store of value so long as the companies providing it are seen as trustworthy. E-money can also be used as a medium of exchange with businesses (such as online sellers) or individuals that accept it. However, it is still not as widely accepted as other media of exchange, for instance, it is not generally accepted by high street shops.	e-money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Authors define X as analog to money when accepted for payments</div>
30	9	Transactions using these technologies are also typically denominated in the existing unit of account (pounds sterling in the United Kingdom).	e-money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	<div>Households and providers use Pound Sterling as UoA for X in most cases</div>
31	9	These forms of money can be obtained in exchange for currency at fixed rates: for example, one pound sterling can be swapped for one Bristol Pound.	Local Currencies	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Households can obtain X if they exchange Pound Sterling for it</div>

32	9	The key difference between these and local currencies is that the exchange rate between digital currencies and other currencies is not fixed. Digital currencies are not at present widely used as a medium of exchange.	Digital Currencies, Local Currencies	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>difference of X</div> <div>If they have fixed exchange rates</div>
O		Manning, S. (2014) The Bank of England as a bank			
1	132	The Bank's issuance of banknotes, making central bank money available to individuals and organisations, is one of the Bank's most recognisable functions.	CB notes	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div>	<div>CB</div> <div></div> <div>is distinct</div> <div>in issuing notes to the public</div> <div></div>
2	132	The public has confidence in banknotes because of the stability in the value of money — through low and stable inflation (the focus of monetary policy) — and also because of confidence that the physical notes in circulation are genuine, can be easily exchanged and are readily available in a variety of denominations.	CB notes	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: R</div>	<div>CB</div> <div>must</div> <div>maintain value and security of notes</div> <div>to ensure trust of public in X</div> <div>(money breaks down)</div>

P		Naqvi, M. and Southgate, J. (2013) Banknotes , local currencies and central bank objectives		
1	317	The promise by the Bank of England to make good the value of its banknotes for all time,	banknotes	A Bank of England
				D must
				I "make good on" value of X
				C to honor its promise indefinitely
				O
				Type: N
2	317	Banknotes are, however, just one form of payment instrument used alongside other physical media of exchange, such as cheques or retail vouchers.	banknotes	A Author(s)
				D define
				I X as one amongst many
				C when looking at physical MoE
				O
				Type: N
3	317	A few UK towns and cities have set up their own local currencies, issuing physical instruments that are akin to vouchers, although some are designed to look similar to banknotes.	local currencies	A Author(s)
				D define
				I X as physical payment instrument
				C in certain UK towns
				O
				Type: N
4	317	Local currency schemes aim to boost spending within the local community and, in particular, among locally owned businesses.	local currencies	A initiators
				D
				I aim to boost local spending
				C when proposing X
				O
				Type: S

5	318	The United Kingdom is in an almost unique position in that the government also permits certain commercial banks to issue banknotes.	commercial banknotes	A D I C O Type: N	Non CB actors may issue X in the UK
6	318	money can essentially be thought of as a claim (or 'IOU') from one person to another.	money	A D I C O Type: N	Author(s) define X as IOU in considering overall framing
7	318	That is, anyone holding a banknote could, in principle, have it exchanged at the Bank of England for the designated value of gold.	banknote	A D I C O Type: N	households could redeem X for gold in times of gold standard
8	319	From this point on, the Bank of England's note issue has been backed by the promise of government-guaranteed assets instead of gold or any other such commodity.	banknotes	A D I C O Type: N	CB may back issuance of X by non-commodity outside of gold standard regime

9	319	there is a benefit to society if users can be confident that any banknote held will be widely accepted by others in the future, and at its face value.	banknotes	<div>A consumers</div> <div>D</div> <div>I benefit</div> <div>C if notes are accepted at face value</div> <div>O</div> <div>Type: N</div>
10	319	Ultimately, fiat money is backed by trust in the state or — more concretely — confidence in the state's willingness and ability to use future taxation to meet all of its obligations.	fiat money	<div>A Author(s)</div> <div>D define</div> <div>I X to be supported by trust in state</div> <div>C in a fiat regime</div> <div>O</div> <div>Type: N</div>
11	319	To ensure genuine notes can be distinguished from counterfeits, the issuer must incorporate easy-to-recognise but hard-to-copy security features, as well as provide education to make people aware of how to authenticate them.	banknotes	<div>A CB</div> <div>D</div> <div>I ensures non-forgability and education</div> <div>C when attempting to foster trust in X</div> <div>O</div> <div>Type: S</div>
12	319	The intended purpose of these schemes has varied markedly, ranging from meeting local credit demand and stimulating the economy, to achieving social and political reform.	local currencies	<div>A Initiators</div> <div>D</div> <div>I pursue different objective</div> <div>C when issuing X</div> <div>O</div> <div>Type: S</div>

13	320	Local currencies are established to support local sustainability by incentivising spending at, and between, participants of the scheme.	local currencies	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div> <div>A Bearers</div> <div>D</div> <div>I accept economic disadvantage when using X</div> <div>C</div> <div>O</div> <div>Type: S</div> <div>A Acceptors</div> <div>D cannot</div> <div>I sue debtor</div> <div>C after being paid in X</div> <div>O</div> <div>Type: N</div> <div>A Author(s)</div> <div>D define</div> <div>I X as vouchers</div> <div>C in monetary legal framework of UK</div> <div>O</div> <div>Type: N</div>	<div>initiators</div> <div></div> <div>pursue sustainability aims when issuing X</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>
14	320	As such, local currency bearers (ultimately local businesses, once the vouchers have been spent by consumers) face a cost akin to an import tax if they purchase supplies in sterling from non-participants	local currencies		
15	321	The term 'legal tender' simply means that if a debtor pays in legal tender the exact amount they owe under the terms of a contract, and the contract does not specify another means of payment, the debtor has a good defence in law if he or she is subsequently sued for non-payment of the debt.	legal tender		
16	321	UK local currency schemes issue paper instruments with a similar legal status to vouchers. Some schemes design the vouchers with some similarities to banknotes banknotes (see Figure 1), although their design must differ from Bank of England and S&NI banknotes to avoid breaching the Forgery and Counterfeiting Act 1981.	local currencies		

17	322	consumers are assumed to acquire local currency from the scheme issuer in exchange for sterling, while the entitlement to convert local currencies back into sterling is assumed to be limited to participating businesses	local currencies	<div>A</div> <div>Issuers must</div> <div>I redeem X for Sterling</div> <div>C to honor expectations of bearers</div> <div>O else in breach of T&C</div> <div>Type: R</div>
18	323	However, the currencies' positioning as local initiatives, where possible not describing the vouchers as 'notes', and incorporating features commonly associated with vouchers such as expiry dates, may help to counteract this.	local currencies	<div>A</div> <div>Issuers must not</div> <div>I use the word notes</div> <div>C to avoid illegality in UK</div> <div>O else breach with BoE Act</div> <div>Type: R</div>
19	324	Local currency denominated deposit accounts held by consumers in a supporting financial institution would be subject to Financial Services Compensation Scheme (FSCS) deposit protection that could further help to reduce the risk of a run, although the paper instruments issued by a scheme would not be subject to this protection.	electronic local currencies	<div>A</div> <div>Issuers must</div> <div>I be a bank with FSCS protection</div> <div>C to increase consumer confidence</div> <div>O else FCA will enforce licensing</div> <div>Type: R</div>
20	324	Local currency schemes are completely independent from the Bank of England. As they are also independent from S&NI banknote issuance, they are not covered by Part VI of the Banking Act 2009.	local currencies	<div>A</div> <div>Author(s) define</div> <div>I X as independent of 2009 Banking Act</div> <div>C in the UK, if compliant as vouchers</div> <div>O</div> <div>Type: N</div>

21	324	The credit risk to holding any voucher is directly linked to the creditworthiness of the issuing scheme.	local currencies	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Bearer(s)</div> <div></div> <div>rely on creditworthiness of issuer</div> <div>when holding X</div> <div></div>
22	324	Although the Bank of England has no remit for local currencies per se, one concern is whether the public might believe that it does.	local currencies	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: S</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Bank of England</div> <div>must</div> <div>ensure consumers understand X</div> <div>to avoid confusion around liability</div> <div></div>
Q		Fisher, P. (2013) Speech: Current issues in monetary policy.			
1	1	Notes and reserve balances form the vast majority of the liability side of the Bank's balance sheet (see Chart 1) and these two types of money provide the ultimate means of settling payments between individuals, commercial firms, the Government and banks. I will talk about broader concepts of money, [...]	CB money	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as only two forms of money</div> <div>if broader concept of money exists</div> <div></div>
2	6	There are other forms of money apart from sterling as I have defined it so far.	Sterling	<div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div> <div>A</div> <div>D</div> <div>I</div> <div>C</div> <div>O</div> <div>Type: N</div>	<div>Author(s)</div> <div>define</div> <div>X as only forms of money</div> <div>if broader concept of money exists.</div> <div></div>

3	6	Economic activity is also supported by the extent of deposits created by the commercial banks. Various measures of this are available, usually labeled “broad money” and the definition most commonly used in the UK is known as M4	broad money	A	Author(s)
				D	define
				I	X as forms of deposits
				C	in UK
				O	
				Type:	N